CHEMICAL WEEKLY

VOL. XXXIII JANUARY 19, 1988 NO. 19

IAMINES' world-class EDA

yielding

INDOFIL'S world-class DITHANE

Diamines and Chemicals Ltd.
Manufactures EDA, of internationally accepted standards, which forms the basic raw material for fungicides vital for many a vegetation.

Indofil Chemicals Company
in collaboration with Rohm n Hass, U.S.A., produces globally aproved quality DITHANE – a fungicide based on EDA entirely supplied by DACL.

Diamines and Chemicals Ltd

HO : 1, National Chambers, 2nd Floor, Ashram Road, Ahmedabad – 380 009.
WORKS : Plot No. 13, P.O. Petrofils, Baroda – 391 347

INDOFIL CHEMICALS COMPANY

NIRLON HOUSE, DR. ANNIE BESANT ROAD, BOMBAY-400 025 INDIA
TEL : 4937391 CABLE : RHOTHANE TELEX : 011-71376
Affiliate of Rohm and Haas Company, Philadelphia (U.S.A.)
Division of Modipon Limited, Modinagar, U.P. (India)

(EDA manufactured according to NRDC process developed at National chemical Laboratory, Pune-8)

Bidhan/DACL/4/'87

- Mono Sodium Phosphate Crystal
- Mono Sodium Phosphate Anhydrous
- Di Sodium Phosphate Crystal
- Di Sodium Phosphate Anhydrous
- Tri Sodium Phosphate Anhydrous
- Tetra Sodium Pyro Phosphate
- Acid Sodium Pyro Phosphate
- Mono Potassium Phosphate
- Di Potassium Phosphate
- Tetra Potassium Pyro Phosphate
- Mono Calcium Phosphate
- Mono Ammonium Phosphate Pure
- Di Ammonium Phosphate Pure
- Di Ammonium Phosphate Tech.
- Sodium Acetate Crystal
- Sodium Acetate Anhydrous
- Zinc Acetate
- Lead Acetate
- Potassium Acetate

25 YEARS 1962-87

ACCI

A. CHOKSEY CHEMICAL INDUSTRIES

101, M.G. ROAD, FORT, BOMBAY-400 023.
TELEPHONE: 273868, 274006
CABLE: HEXAPHOS ■ TELEX NO. 11-3716 PHOS IN

Edited by R. Raghavan and published by N. R. Rajagopalan, on behalf of owners, Sevak Publications, 30 Hanuman Industrial Estate, Wadala, Bombay-400 031. Madras Office: 27, Begum Sahib 3rd Street, 1st Mount Road, Madras-600 002. Phone: C/o. 87808 and printed by N. R. Rajagopalan, at Sevak Public 25, North Mada Street, Thiruvanmiyur, Madras-600 041. Phone: 419265. Registered with Registrar of News for India vide No. R. N. 1972/57.

C. F. T. R. I., MYSORE

If You Are Determined

THAT YOUR PRODUCT SHOULD BE THE BEST
AND SAFE IN THE MARKET
Then You Will Hit It Off With Our

SILICA GEL

Indicating and Non-Indicating

Activated Alumina Balls

FOR
PHARMACEUTICALS & INDUSTRIES
WE WILL MEET YOUR SPECIFICATIONS
For Removal of Moisture & Control of Humidity from

AIR & GAS

Ensure Your Product By Using

SILICA GEL BAGS

(Indicating --- Non-Indicting)

Please Contact:

Industrial Organics

100, Dadasaheb Phalke Road, (C.Rly), BOMBAY - 400 014.

Phones: Office: 448051/448661 Residence: 4221658

Associates

DRIER CHEMICALS

Available Ex-Stock

Formic acid 85% (BASF)

Formaldehyde 37%

Methanol -- RCF

UP TO 10 DRUMS RESALE Rs. 6.75 per Ltr.
Outside Maharashtra/14ARs.6.15 per Ltr.

10 DRUMS & Rs. 6.65 pe
Rs. 6.10 pe

Tanker Load & Drums

Acetone

Inside Maharashtra Rs. 19.00 per kg. Resale
Outside Maharashtra/14A Rs.18.00 per kg. + CST

Beta Picoline (Belgium)
Vanillin (Monsanto, USA)
Isobutanol
Isopropanol (IPA) (Japan)
N-Butanol (Japan)
Phenol

Aniline Oil
Nitro Benzene
Cellosolve (Belgium)

Thionyl Chloride (Import
Octanol (2-Ethyl Hexanol

Low Density Polyethylene (LDPE) Gr. SD 3
PVC Resin Suspension Grade (Film Grade) US
Caprolactum (Bayer) -- Brazil/Yugoslavia
Ceto Stearyl Alcohol Alfol 1618-4317 -- Belgium/Netherla
Ethylene Vinyl Acetate (EVA) -- German
2-Cyanopyarizene -- Dow, America
Methylene Chloride -- Imported
-- ICI, UK.

CONTACT:

LAGDIWALA ENTERPRISES

229/231, Samuel Street, IIIrd Floor, Bombay - 400 003

Phones: Off: 339927/346398/343923
Gram: ORIENDUS

Resi: 486132/472052
Telex: 011-2566 OM IN

EGIS

neers yesterday... Leaders today.

entaerythritol. Formaldehyde. Hexamine. Refrigerant Gases. Hydrofluoric Acid. atty Alcohols. And Bulk Storage Facilities.

A wide range of chemicals catering to a broad spectrum of applications... And readily available.

Pentaerythritol Applications

paints
explosives
- printing inks
- alkyd resins
- foundry resins

Fatty Alcohols – 'ACILOL' Applications

pharmaceuticals
textile auxiliaries
toothpastes and toothpowder
- cosmetics
- detergents
- water evaporation retardant
- plasticizers
- soaps
- pour point depressant

Hexamine Applications

- plastics
- textiles
- fertilisers
- paints
- plywood
- pesticides
- foundry resins
- cement
- laminated sheets

Formaldehyde Applications

- synthetic thermosetting resins
- adhesives
- textile intermediates
- preservation
- paints
- laminates
- dyestuffs
- disinfectants
- paper
- plywood
- embalming

Refrigerant Gases – 'AEGRON' Applications

- refrigeration and airconditioning
- polyurethane foam
- aerosols

Hydrofluoric Acid Applications

- alkylation catalyst
- descaling of stainless steel
- chlorofluoromethanes
- glass etching

AEGIS CHEMICAL INDUSTRIES LTD.

CORPORATE OFFICE
Baldota Bhavan,
117 Maharshi Karve Marg,
Bombay 400 020.
Phones: 292059, 294715,
294166, 298193
Grams: "PENFORM".
Telex: 011-3764 ACIL-IN.

PETROCHEMICALS DIVISION
Khetan Bhavan,
198 J. Tata Road,
Churchgate,
Bombay 400 020.
Phones: 221435, 221976
Grams: "PENFORM"
Telex: 011-2274 ACIV-IN.

BULK STORAGE INSTALLATION
Baldota Bhavan,
117 Maharshi Karve Marg,
Bombay 400 020
Phones: 292059, 294715,
294166, 298193
Grams: "PENFORM"
Telex: 011-3764 ACIL-IN.

FATTY ALCOHOLS DIVISION
FLUORINE CHEMICALS DIVISION
301 Tulsiani Chambers,
Nariman Point, Bombay 400 021
Phones: 220967, 223244, 223273
Grams: "AEGISFATTY" and "EVERFREEZE"
Telex: 011-2755 ACIL-IN

ARMS-AC-14

METTUR CHEMICAL'S

C.T.C. * CHLOROFORM * METHYLENE CHLORIDE
TRICHLOROETHYLENE

AT MOST COMPETITIVE PRICES

NOW OFFERING FROM READY AND INCOMING CONSIGNMENTS:

DETERGENT POWDER ALL GRADES

ACETONE
I.P.A.
SORBITOL

CITRIC ACID Sugar & Mota Dana (M/s. Citurgia Biochemica
HYDRAZINE HYDRATE
GLYCERINE

EX-STOCKS AND BOOKING:

Hyflosupercell (Jhonmanville U.S.A.) **Hydroquinone**
Acetic Acid Glacial * Sodium Nitrite * Sodium Alginate

Please Contact: Consignee Agents

M/s. B.S. Mehra Sons Pvt. Ltd.
B-1/14, Ashok Vihar Phase II,
Delhi-110 052
Phone: 741742/7118800/2512975/2526285
Telex: 3161285 PCC IN

M/s. Pharma Chemicals
302, Karsan Natha Trust Building,
330, Samuel Street, Vadgadi, Bombay-400
Phone: 344115/342889
Telex: 1173635 BSM IN

FOR YOUR REQUIREMENTS FROM READY STOCK:

CHEMICALS:

Thiourea
Melamine
Calcium Carbonate Activated (OMYA BSH Fillers)
Trichloroethylene
Glycerine
Beta Picoline
Thymol Crystal
Nonyl Phenol
Acetic Anhydride
Adipic Acid
Pyridine Pure 2°
PVC Resin Suspension 67-D
Gum Rosin N & WW Grade
Toshiba Silicon Emulsion TSM-630
Ceto Stearyl Alcohol Alfol-1618-H
Hydrogen Peroxide 30%
Cresylic Acid
Gallic Acid 99.5%
Monoethylene Glycol
Methylene Chloride
Graphite
Cellosolve
Acrylamide
Methyl Isobutyl Ketone
Portable Generator
Paraformaldehyde 91%
Potassium Carbonate
Low Density Polyethylene
Polyvinyl Alcohol GH-17
Lithopone
Laboratory & Reagent
Acetic Acid 99.5% Glacia
Zinc Ash * Iodine

INTERMEDIATES

Cyanuric Chloride
Benzaldehyde
Sodium Dichromate
Orthotoluidine
Sodium Chromate
Chrome Oxide
Meta Toluene Diamine
N,N-Diethylaniline
N-Methylaniline
Sumifix Black B
Alpha Naphthol

Please Contact:

GUPTA TRADING COMPANY

5, Apeejay House, 130, Apollo Street, Fort,
BOMBAY - 400 023

Phone Nos. Office: 244403/222059
Resi:8229085/8121281

Gram: "CARPED

NOW AVAILABLE:

96% A.D. DODECYL BENZENE SULPHONATE
(HARD ACID SLURRY)

LINEAR ALKYL BENZENE SULPHONATE
(SOFT ACID SLURRY)

SULPHONATED WITH SULPHUR TRI-OXIDE

MANUFACTURERS:

TRADE MARK

Arochem Silvassa Pvt. Ltd.,
Industrial Estate, Silvassa-396 230 -- Via Vapi,
Dadra & Nagar Haveli.
Phone: 289, 291 Gram: AROCHEM SILVASSA
Telex: 0185 201 ARCM IN

BAY	:	Scent House, Station Road, Goregaon (West), Bombay-400 062. **Phone: 6722280, Gram: AROSILVASSA, Telex: 011-78077 FAIS IN**
PUR	:	Chemdet Enterprises, Shop 67, 75/232, Sabji Mandi, Kanpur. **Gram: SCENTOUS, Telephone: 64551**
RAS	:	Syndet Enterprises, 90, Govindappa Naick Street, Madras-600 001. **Gram: SCENTOUS, Telephone: 35532**
HI	:	B. Shantilal & Co., 1025/5, First Floor, Gali Teliyan, Tilak Bazar, Delhi-110 006. **Gram: INDOSIL, Telephone: 291 3973/0649**

AVAILABLE REGULARLY

SPRAY DRIED 40%
A.D. ANIONIC DETERGENT
POWDER NEUTRAL-pH: 7-7.5

In Snow White Colour & Free Flowing
Bulk Density below 0.3

Manufacturers

Silvassa Syndet Private Limited

Amli Industrial Estate,
SILVASSA - 396 230 -- Via Vapi,
Dadra & Nagar Haveli
(Phone: 280)

GOOD NEWS !

INTRODUCING FOR FIRST TIME

PYRIDINE 2° [GRADE 1A - PURITY MIN. 98.5%]

IN ORIGINAL SPECIAL PACKINGS OF 25 KGS. AND 50 KGS.

Manufactured by

WARNER HINDUSTAN

Application in following industries

* Drugs
* Chemicals
* Cosmetics
* Electroplating
* Steel
* Rubber
* Textiles - Dyes

Kindly Forward Trade Inquiries

HASMUKHRAY & CO.,

198, Mangaldas Building No. 3B, Mangaldas Road, BOMBAY - 400 002

Tel. Nos.: 31-7815/29-2386/25-8137/25-1744 Cable: JAYJANAK Telex: 11-2192 JAY

Hyderabad : Telephone Nos. 73604/70408

The Quality You Can Trust!

COUNT ON NAVDEEP CHEMICALS —

the most experienced manufacturers of high quality

P—TOLUENE SULPHONIC ACID

It is comparable in strength to the mineral acids such as Sulphuric Acid. This acidic nature makes it useful in catalytic reactions such as esterification, including pthalate plasticisers, acrylic esters, etc.; dehydration, acid hydrolyses, polymerization, alkylation and as catalysts for thermosetting resins such as phenolics, etc.

Navdeep Chemicals also manufactures various high quality speciality chemicals and intermediates. All tested, conforming to stringent standards. And continuously improved upon through sustained and specialised research at its Research and Development Centre, recognized by the Government of India.

The chemicals offered in the— Alkyl Aryl Sulphonic Acid range includes

- Cumene Sulphonic Acid
- Phenol Sulphonic Acid
- Xylene Sulphonic Acid

and their various Salts.

- **Assured Quality**
- **Competitive prices**
- **Promised deliveries**

NAVDEEP

CHEMICALS PVT. LTD.

Navdeep Chemicals Pvt. Ltd., 166, Bora Bazar Street, Fort, Bombay-400 001.

Phones: 263855/267715 Gram: 'NAVDEPCHEM'

— With an eye on the future.

THE ONLY TRUSTED NAME

CELLPRO-CEPOL

(SODIUM CARBOXY METHYL CELLULOSE)

UNIQUE BINDER

FOR

* PENCIL & CRAYONS
* ADHESIVES
* FOUNDRY CORE & BINDER
* WALL PAPER COVERING

MANUFACTURED BY:

CELLULOSE PRODUCTS OF INDIA LTD.

P.O. KATHWADA MAIZE PRODUCTS,
DIST. AHMEDABAD.

TELEPHONES:

KATHWADA	BOMBAY	DELHI	MADURAI
887432-36	232267	262481	8165

PLEASE CONTACT THE AUTHORISED DISTRIBUTORS:

INDOKEM

INDOKEM LTD.

UDYOG MANDIR COMPOUND, 7/C, BHAGOJI KEER MARG, MAHIM,
BOMBAY-400 016

Telephones: 452029/456299/462721/462842/462745/457465

BRANCHES:

Telephones:

MEDABAD	CALCUTTA	MADRAS	NAGPUR	SECUNDERABAD
36/7/8	277110	564252	48970	73895
79	277480	563058	45729	
	274820			
	279894			

Attention

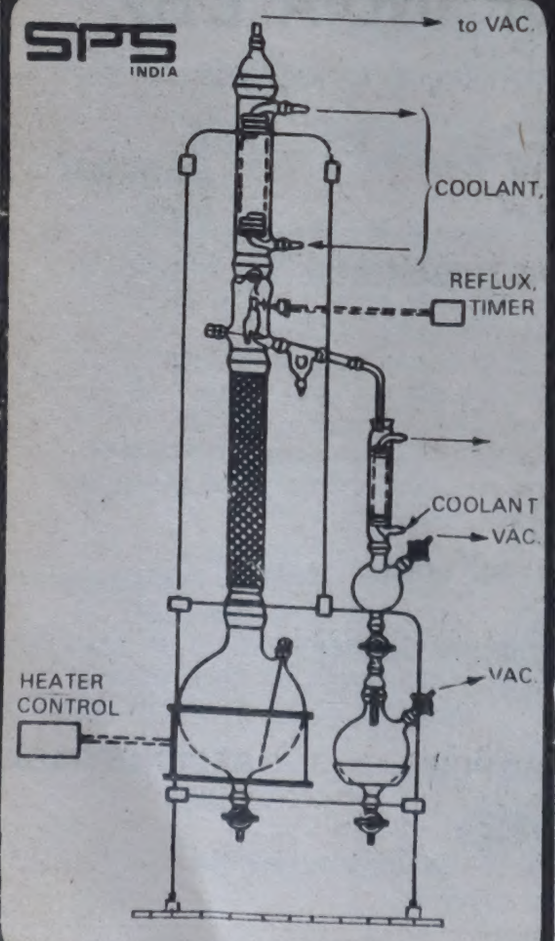
Manufacturers of
CHLOROQUINE PHOSPHAT

Available BEST QUALITY
META CHLORO ANILIN

Manufacturer:
VCC Valiant
Chemical Corporation
3-B, Ganga Vihar,
94, Kazi Sayed Street,
Bombay-400 003.
Phones : 337712, 339272

Resi. : 6491255 (Manoj)
Resi. : 6492002 (H.L. Gala)
6492285
Resi. : C/o. 652477 (M.H. Sav
Factory :
Plot No. 2906, G.I.D.C.,
Sarigam-396 155, Gujarat.

SPS INDIA



Now Readily Available !

- All Glass Reaction & Distillation units upto 200 ltrs.
- Pipelines & Fittings upto 12" diameter.
- Teflon Valves & Glass stopcocks.
- Column Components & Heat Exchangers.
- Complete Structure & Erection of above items.
- Laboratory Ground Glass Interchangeable joints.

Please Contact
STANDARD SCIENTIFIC GLASS INDUSTRI

Office:
625-A, Nariman Bldg.,
Jagannath Shankarsheth Rd.,
BOMBAY-400 002.
Phones 256811 □ 315201
Grams STANGLA

Factory:
G-2, Sainath Industrial Estate,
Off. Aarey Road, Goregaon (E
BOMBAY-400 063.
Phone: 699236

Wanted Stockists, & Representatives

When you need the following CHEMICALS

MICROCRYSTALLINE CELLULOSE POWDER
(MCCP)

LIQUID EDTA

EDTA Acid 99% (PURE & SALTS)

PRECIPITATED SILICA

CELLULOSE POWDER

NITRILO TRI-ACETIC ACID (NTA)

come to us

OM NEELKANTH CHEMICALS INDIA PVT. LTD.

Factory : S.No.204, Karan Nagar 382 727,
Dist. Mehsana (N.G.) Phone: 529 (Kadi)

OM NEELKANTH CHEMICALS

Our New Head Office Address :
5, Anand Chambers, 2nd Floor,
Near State Bank of India.
Opp. "Shilp", Navrangpura,
Ahmedabad - 380 009
Phone : 408360 Gram : NEELCHEM

DIRECT IMPORTERS & STOCKISTS OF:

POLY VINYL ALCOHOL

HOT GRADE -- POLYSIZER 173/BF--17
COLD GRADE -- GOHSENOL GH--17/BP-20/BP--17/BP--24/GL--05/BP--05

Acrylamide--Japan
Acrylic Acid--Japan
Hydroxy Ethyl Cellulose
Natrosol250 LR/GR/HBR Hercules Make
2 Ethyl Hexyl Acrylate
Butyl Acrylate
P.T.B.P. * M.E.K.

Sodium Hydro Sulphit 89/90%
Emulsifier Polyethyler Wax
Propylene Glycol USP
Poly Vinyl Acetate Emulsion

Please Contact:

HEAVY CHEMICALS CORPORATION

43, V.V. Chandan Street, (D'Souza Street), 1st Floor, Off Masjid Bunder Roa
Bombay-400 003. **Phones: 327973/348148**

FOR YOUR REGULAR REQUIREMENTS OF

OXALIC ACID, DIETHYL OXALATE
ACETIC ACID, ETHYL ACETATE
BUTYL ACETATE

CONTACT MANUFACTURERS:

The Sanjivani (Takli) Sahakari Sakhar Karkhana L

Sahajanand Nagar, P.O. Singanapur, Tal. Kopargaon,
Dist. Ahmednagar, (Maharashtra)
Phone: 334, 391, 305, 208 (Kopargaon)
612564 (Bombay)
Gram: "SANJIVANI"
SHINGANAPUR

A company that does not rest on past achievements

Success is heady and very often is the undoing. It breeds complacency Reaching the moon was a feat without parallel in Man's History. We believe it is now necessary to reach for the stars! Moving from greatness to sublimeness! A Spirit transposed to our Chemicals.

hemicals for: Sizing, Desizing, Scouring, Mercerising, Dyeing, Printing and Finishing of textiles.

a M.G. Saraf Enterprise

st trusted name in chemicals.

SUPERTEX®

SUPERTEX® (INDIA) CORPORATION

132, Dr Annie Besant Road, Bombay-400 018
Phone 493 38 18, 493 51 82, 493 60 41
Grams Thinogum, Telex 011-75613 SUPR

ST/A/104

ATTENTION!

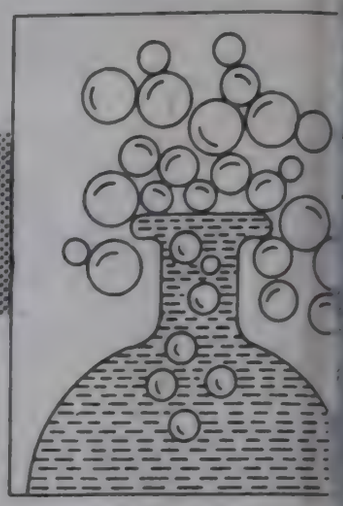
SILICONES

Actual Users/Dealers/Stockists Reduce Your Cost By Using Our Produ

PREMOULD-600
SILICONE MOULD RELEASE AGENT
FOR RUBBER INDUSTRIES.

PRESIL-300
SILICONE EMULSION FOR
TEXTILE INDUSTRIES.

& AMINO SILICONES



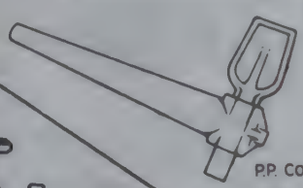
MULTI FOAMER N.P.
SILICONE DEFOAMER/
ANTI FOAM EMULSION

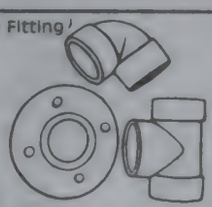
Please Contact:

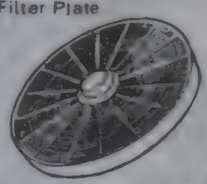
PREMIER CHEMICAL INDUSTRIES

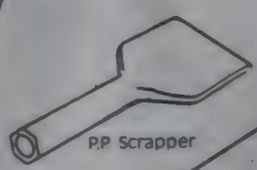
Shah & Nahar Industrial Estate, A-1, Gala No. 109, 1st Floor, Near Sun Mill Compound, Lower Parel (W), Bombay - 400
PHONE : 4949771 — 4942176 — 4945869
Branch: 538, Jash Market, Ring Rd., SURAT-395 002. PHONE: 40136

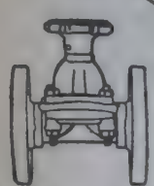
PRINT


P.P. Cocks


Pipe Fitting


PP Filter Plate


P.P Scrapper

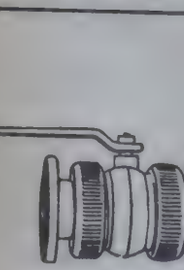

Diaphragm Valve

Pall Rings

NEW POLYTRAYS For Dryers

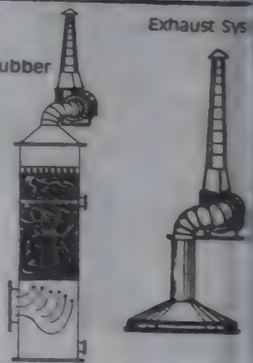
- Highly resistance to acids alkalies and corrosive chemicals, temperature resistance up to 120°C and 140°C. Economical in cost, durable and long lasting, it has smooth surface easy to clean, no contamination, non toxic, no material sticks to it. Improved Mechanical Strength, No Sagging.
- Very widely used by pharmaceuticals, fine chemicals and dyes industries.
- Polypropylene Scrubber for scrubbing of hazardous gases like HCL, SO2. HNO3 and HF and other corrosive gases to control pollution with LTHA Polypropylene Pall Rings in 25mm, 40mm, 50mm and 75mm dia.
- Polypropylene Diaphragm Valves and Ball Valves, Flanged, Socketed and Threaded ends Size; ½" to 4". Pressure up to 10 Kg/cm2. Highly resistant to corrosion.
- Polypropylene Centrifugal Exhaust Fans, Ducting and fume stacks, with moulded Polypropylene Impellers.
- Fans are Tested as ISI Specification No. IS-4894-1968
- For Capacity & preserve and now impellers only. FRP Fans up to 40,000 CFM. are Made
- Polypropylene Tanks and tanks lining, For storage of corrosive liquid. Available from 200 to 10000 litres capacity.
- PVC Polypropylene FRP and HDPE Pipes, Fittings and flanges.
- Polypropylene FRP Cake collection. troughs with castorwheels, polypropylene cock for filter press and polypropylene scrapper to remove cake from the filter press.
- Injection Moulded Engineering Plastics Components

Contact
PLASTIC FABRICATORS
31 2nd. Floor Ghanshyam Ind. Estate, Veera Desai Road, Andheri (W), Bombay-400 058. Phones: Office: 625712 ▮621150 Resi: 578115

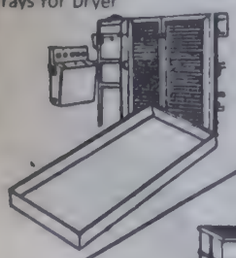

Ball Valve

Scrubber

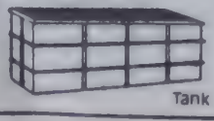
Exhaust Sys



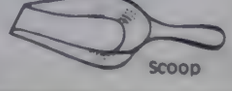
Trays for Dryer



P.P. Centrifugal Exhaust Fan


Tank

Tank

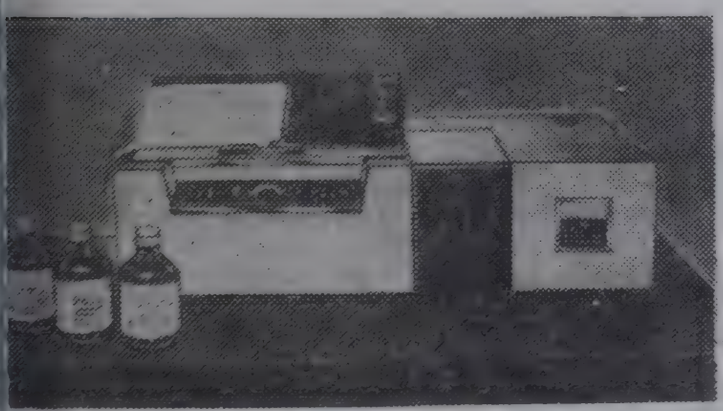

Scoop

Ducting Hoods

PRINT-D

ne lowest %, the highest marks !

Lowest % bsorption gives RANBAXY'S olvents for pectroscopy ighest marks or accuracy!



nbaxy's solvents for spectroscopy give minimum sorbance at specified wavelengths leading to timum accuracy. Currently available is the lowing range of solvents:

- ACETONE
- BENZENE
- CARBON TETRACHLORIDE
- CHLOROFORM
- DICHLOROMETHANE
- ETHYL ACETATE
- METHANOL
- iso-PROPANOL

For your requirements, please contact :

RANBAXY LABORATORIES LIMITED

CHEMICAL DIVISION MARKETING OFFICE
16, MARINA ARCADE, CONNAUGHT CIRCUS
NEW DELHI - 110 001
Phones : 323738, 323739; Telex : 031 4220
Cable : RANBAXYLAB CONNAUGHT CIRCUS

Put **RANBAXY** Reliability in your Laboratory!

ATTENTION ! EXPORTERS & LOCAL CONSUMERS
AVAILABLE EX-STOCK
BEST QUALITY

2,5 DI CHLORO ANILINE
PARA NITRO PHENOL
2,5 DI CHLORO NITRO BENZENE

(RED 3GL QUALITY)

Contact Manufacturers:

GEMCHEM INDUSTRIES

3B, Gangavihar, 94, Kazi Sayed Street, Bombay - 400 003
Phones: 339272/337712. * Telex: 011-73254 * Cable: 'GANESHCHEM'

For Your Requirements Of:

Copper Phthalocyanine
Green Pigment

Copper Phthalocyanine
Blue (ALFA)

Please Contact:

GUJARAT INDUSTRIES

Plot No. 184, GIDC Estate, Phase II,
Vatva, Ahmedabad - 382 445
Telephone No.: 877210/877261/877050

AVAILABLE FROM MANUFACTURER

AT COMPETITIVE PRICE WITH 5% EXCISE GATE PASS

Butyl Acetate

Ethyl Acetate

Di Butyl Phthalate

Di Ethyl Phthalate

2 Ethyl Hexyl Acetate

Iso Propyl Chloro Acetate

Iso Propyl Acetate

Iso Butyl Acetate

CONTACT:

Modern Petrochem Industries Pvt. Ltd.

15, 'Paresh Niketan', 11th Road,
Santa Cruz (E), Bombay - 400 055

Tel.: Office: 334632/33, 345679 Resi: 6145437/6126596

Telex: 11-78212 RAJ IN

WE OFFER

PHENOL, ORTHO CRESOL,
XYLENOL, MULTIVALENT PHENOL
META-PARA CRESOL

of

NEYVELI LIGNITE CORPORATION LTD.

*

HYDRO SULPHITE OF SODA

OF

TAMIL NADU CHEMICAL PRODUCTS LTD.

*

TITANIUM DIOXIDE

of

TRAVANCORE TITANIUM PRODUCTS LTD.

*

FORMIC ACID

of

PERIYAR CHEMICALS LTD.

*

PHTHALIC ANHYDRIDE

of

THIRUMALAI CHEMICALS LTD.

*

PHOSPHORIC ACID

of

STAR CHEMICALS (BOM) PVT. LTD.

*

PALEGAL S.F.

of

BASF INDIA LTD.

*

HYDROQUINONE

of

ADITYA BUILDERS (Chemical Division)

*

also available

All types of Industrial Chemicals -- Solvents -- Acids -- Intermediates -- Pigments, etc.

Please Contact:

RAMNIKLAL S. GOSALIA

Admn. Office:

308/310, Parshva Chambers, 17/21, Issaji Street,
Vadgadi, Bombay - 400 003.

Telephone: 327314, 327324, 345505

Cable: NEWLUCKY; Telex: 11-76882 RSG IN

Associates:

Shagoya Pvt. Ltd. * Gosalia Brothers * Yojit Enterprise
United Enterprise * General Trades Corporation

MANUFACTURERS OF
ACID MILLING DYES

RED RS * RED G * RED GRS * RED 3BN *
PINK R * RED F2R * MAROON V *
NAVYBLUE S5R * YELLOW 5GN *
YELLOW M * YELLOW N4GN *
GOLDEN YELLOW N2M *
METAL COMPLEX BLACK WA &
DIRECT DYES

chromill colour industries

CHROMILL
COLOUR
INDUSTRIE

INTERMEDIATES
for
DYES Manufacturers

2:5 DICHLORO 1:4 SULFOPHENYL -
3 METHYL 5 PYRAZOLONE *
1:4 SULFOPHENYL 3 METHYL 5 PYROZOL
G-SALT * EBA METASULFONIC ACID. *
PARA AMINO AZO BEZENE SULPHONIC A

SHIDIMO
INTERAUX
PVT. LTD.

Office: 901-902, Adatia Awas, Bombay M
Umarwada, SURAT 395 010.
Gram: CHROMILL
Phone: 44438 43758

Factory: S No - 245, LAJPORE. 394 235
Via Sachin Dist. Surat.
Phone: 60, 61.

Export Inquiries Solicite

Flexibility . . .

flexibility in a changing world is a grave
ger. Pliancy is at a premium and gaining
er impetus. Appreciating such an attitude,
reflect it in our approach to the chemical
stry of today and the one of tomorrow. We
e to meet you there. Chemicals for Sizing,
esizing Scouring, Mercerising, Dyeing,
Printing & Finishing.

SUPERCHEM®

SUPERCHEM®

132, Dr Annie Besant Road, Bombay-400 018.
Phone: 493 38 18, 493 54 82, 493 60 41.
Grams : 'Thinogum', Telex : 011-75643 SUPR.

i. Saraf Enterprise
t trusted name in chemicals.

For Your Requirements of:

P N C B

(PARA NITRO CHLORO BENZENE)

O N C B

(ORTHO NITRO CHLORO BENZENE)

Yes !! We have started manufacturing the above products of best quality

PLEASE CONTACT MANUFACTURERS:

Alchemie Organics Pvt. Ltd.

Office:
74, Matru Smruti, Road No. 4,
Scheme No. 6, Sion (East),
Bombay - 400 022

Contact Person:
Mr. N.N. PRABHU
Phones: Office: 477431/32/33

VIJAY MECHANICAL & PACKING WORKS

MOULDERS & FABRICATORS OF P.T.F.E - TEFLON — FLUON
Expansion Bellow, Valve Bellow Gasket, Creascent Ring, Stirrer
Bellow o-Ring, V-Ring Gland Packing

OFFICE : Building No. 174/5905,
Kannamwar Nagar No.1, Vikhroli, (E)
Bombay -400 083. Phone : 58 29 69

WORKS : Shed No. W-9 (A) M.I
Murbad, Near Kalyan
Dist.: THANA

FOR YOUR REQUIREMENTS OF:

* **Reactive Turquoise Blue H5G, H7G, H2G**
* **Vinyl Sulphone Dyes--Turquoise Blue G**
* **Direct Turquoise Blue**
* **Navy Blue RX**
* **Reactive Turquoise Blue MG**

FOR EXPOR

CI BLUE--
CI BLUE--
CI BLUE--

Contact Manufacturers:

At Bombay Office:

KUSUM DYE-CHEM INDUSTRIES

Office:
77/87, Abhechand Gandhi Marg,
Shreeji Krupa Building,
Room No. 21, 2nd floor, Bombay-400 003
Tel: 342466/324526, C/o. 345512; Resl: 5610860

Factory:
Plot No. 303/8/D, G.I.D.C., V.
Dist. Bulsar, Gujarat, Pin-396

(Export enquiries also solic

ATTENTION!

PHARMACEUTICAL MANUFACTURERS, DEALERS, EXPORTERS.

TRIMETHOPRIM IP
THIACETAZONE IP/BPC
TINIDAZOLE

FOR QUALITY AND QUANTITY

PLEASE CONTACT MANUFACTURERS

OREX

OREX PHARMA PVT. LTD.

AND

OUR SISTER CONCERN

PISAL PHARMACEUTICAL CO.

FACTORY &
ADMINISTRATIVE OFFICE

D.D. NAKHWA COMPOUND,
NEAR CIDCO BUS STAND
CHENDANI KOLIWADA,
THANA (WEST) 400 602.

PHONE: 50 53 17, 59 33 79

HEAD OFFICE:

404/405, ADAMJI BUILDING,
413, NARSI NATHA STREET,
BOMBAY-400 009.

TELEX NO: 11-71861 OREX IN

TELEPHONE: 32 78 54 & 33 52 73

AVAILABLE REGULARLY EX-STOCK
SULPHAMETHOXAZOLE I.P.
L-LYSINE MONO HCl I.P. Pharma/Feed Grade

AMPICILLIN TRIHYDRATE I.P.
AMOXYCILLIN TRIHYDRATE I.P.
PYRAZINAMIDE B.P.
FURAZOLIDONE I.P.
IBUPROFEN B.P.
PARACETAMOL I.P.

Authorised Selling Agent of:

M/s. Samyuk Resins & Chemicals P. Ltd.
M/s. Tini Pharma Pvt. Ltd

Please Contact:

M/s. CHEMIPACK CORPORATION

111, Mahatma Gandhi Road, Fort, Bombay-400 023
Phone: Office: 274119/271776, Resl: 6363306
Telex: 011-2594 Gram: "PACKACHEMI"

MANGANESE SULPHATE -- 98%
MONO HYDRATE
($MnSO_4 . H_2O$) --- Mn 32%

MANUFACTURERS

KUM INDUSTRIES

1009/2, VINOD BUILDING,
DEEP BUNGALOW CHOWK, PUNE - 411 016
PHONE: OFFICE: 53129 FACTORY: 84874

For Your Requirements Of:

Hydrofluoric Acid 60%
Ferrous Sulphate (Crystal/Dried/Tech.)

Please Contact:

UNIONPARK Chemicals (Bombay) Pvt. Ltd

Head Office: 151-B, Mittal Court, Post Box No. 11539,
Nariman Point, Bombay-400 021
Phones: 244030/244075/224178/223222/225938/242325
Telegram: "UNIONACID" Bombay-400 021. Telex: 011-5290 UNIN IN
Factory: E-11, Tarapur Industrial Estate, Boisar, Dist. Thane, (Maharashtra).
Tel: 311.

ARACETAMOL

IP/BP

EMICAL Formula

etaminophen
– Hydroxyacetanilide
– acetylaminophenol
– Acetyl p-aminophenol
– acetaminophenol
– acetamidophenol

STRUCTURAL Formula

MANUFACTURAL Formula

farmson

THE PERFECT PRODUCT OF

farmson
Pharmaceutical Gujarat Pvt. Ltd.

Head Office : Shankar Bhuvan, Sayaji Gunj, Vadodara-390 005. Phones : 65636, 64169 Gram : FARMSON

Works : 98/1-2-3-4, GIDC Industrial Estate, Nandesari Dist Vadodara, Phone : 219

Research Centre : At Nurpura, Post Baska Tal. Halol, Dist. PANCHMAHALS

SALES OFFICES

Bombay : 404 Embassy Centre, Nariman Point Bombay 400 021 Phones : 231144, 230383, Gram : KEKEVIT

Hyderabad : 1 1 700/B-1, New Bakaram, Hyderabad-500 380, Phone : 65836, Gram : FARMSON

Regional Representatives

- KHOKHANI ASSOCIATES, 3rd Floor, Keshav Baug, 116-Princess Street, BOMBAY-400 002 Tele. No 252244, 252688
- PAN ASIAN Commercial Corporation, 4, Rabindra Sarani, CALCUTTA-700 001 Tele. No : 277595-475047, Cable : PANASIAN
- B & I Enterprise Cama Building, 2nd Floor, 24/26 Dalal Street, BOMBAY-400 023 Tele. No : 271964
- NEELGIRI AGENCY, B-5, Shivlok House-1, Karampura Comm. Centre, Opp : Milan Cinema, Najafgarh Road, NEW DELHI-110 015. Tele No : 5413818

NIRMAL

The Biggest Manufacturer of India

AVAILABLE FROM READY STOCK AT COMPETITIVE RATES

ACETONE
ACID CRESOL (Tech)
ANILINE OIL
BUTYL ACETATE
BENZYL ALCOHOL -- N
CARBITOL (Ethyl)
BUTANOL -- N & ISO
AMYL ALCOHOL -- N & ISO
CRESOL (Indian)
CARBON DISULPHIDE
CARBON TETRA CHLORIDE
CHLOROFORM (Original)
CHLOROFORM (Repacked)
DI BUTYL PHTHALATE
DI ETHYL PHTHALATE
DI ETHYLENE GLYCOL
DI METHYL AMINE 40%
DI METHYL PHTHALATE
DI OCTYL PHTHALATE
DI METHYL SULPHOXI
EGG ALBUMIN (Bottle)
EPICHLOROHYDRINE
ETHER PETROLEUM
40/60, 60/80, 80/100
ETHYLENE DICHLORID
FORMALDEHYDE

Packing available as per your choice
Please Contact:

M/S. MAKS CHEM INDUSTRIES
2nd Floor, Pirbhoy Mansion, 89, Princess Street, Bombay-400 002
Phone: Off: 312358/257898/254363 Resi: 8227223/8282445/6126969
Gram: MAKSOL

AMMONIA Gas
Liquor
Purity-99.5%
In Cylinders of 40 k
AND ALSO
In Road Tankers
Sp. Gravity 0.910 &
In Road Tankers, Dr
Carboys

Please Contact:

Jaysons CHEMICAL INDUSTRI

SAKI VIHAR LAKE ROAD, POST BOX NO. 8968, SAKINAKA, BOMBAY - 400 072
Phones: 582704/589205/589208
Grams: JAYSONS--Bombay-400

261, Kandla Kashan Street,
Delhi-110 006
Phone: 235516
Gram: 'JAYCI'

BRANCHES
Plot No. 317/7, G.I.D.C.,
Vapi, Dist. Bulsar-396 195
Phone: 1689

18-A, Mai Krupa Society,
Old Channai Highway Road,
Baroda
Phone: 22161

AVAILABLE REGULARLY IN BULK

CITRIC ACID - I.P.
(Monohydrate)
GUM ROSIN
(Water White Grade)
SODIUM CITRATE - I.
MAGALDRATE - USP

CONTACT:
CHEMTRAC ASSOCIATES
6, Veena Beena Arcade, Turner Road, Bandra (West),
Bombay 400 050
Phone: 6425045 / 6404641 / 662477 (Resi.)

balance
etween
nservatism

and Modernism.

ple very often jettison ir past prudence and rning and totally latch to the modernist band-gon. The wisdom of the st can be modified, re-tterned, and used in the odern context. This is especially necessary in the business world. This is what Texchem has been doing. We respect the advice of our forbears and still keep room for new blood. A philosophy that satisfies us and our customers.

Chemicals for :- Sizing, Desizing, Scouring, Mercerising, Dyeing, Printing, & Finishing of textiles.

TEXCHEM®

TEXCHEM®

132, Dr. Annie Besant Road, Bombay-400 018.
Phone: 493 38 18, 493 54 82, 493 60 41
Grams : 'Thinoqum', Telex 011-75643 SUPR

a M. G. Saraf Enterprise

Most trusted name in chemicals.

G. Saraf Enterprise
t trusted
ne in chemicals

TC/ A /104

For Your Small & Bulk Requirements Of:

Morpholine * Phosphorous Trichloride
Phosphorous pentoxide * Phosphorous Oxychlorid
Mono Ethanolamine * Tri Ethanolamine * Diethanolami

PLEASE CONTACT:
S.I. CHEMICALS & TRADING CO. PVT. LT
65, Bombay Samachar Marg, Sonawala Building, 2nd Floor, Bombay - 400 023
Phone: 286 34 18, 286 12 36. Cable "SICORPOBOM" Telex: 11-5028 CHEM -IN

ESTABLISHED 1968

NO COMPROMISE ON QUALITY WITH
BHAVNA'S

SILICA GEL

(Indicating & Non-Indicating T
Column Chromatography
Thin LAYER Chromatography

MANUFACTURED BY
Bhavna Chemical Industries
51, Vitthal Udyog Nagar, Vallabhvidhyanagar, Gujarat - 388 121
Tel. No. Fact: 7248; Resl: 7342; Bombay Contact Tel. No. 507507

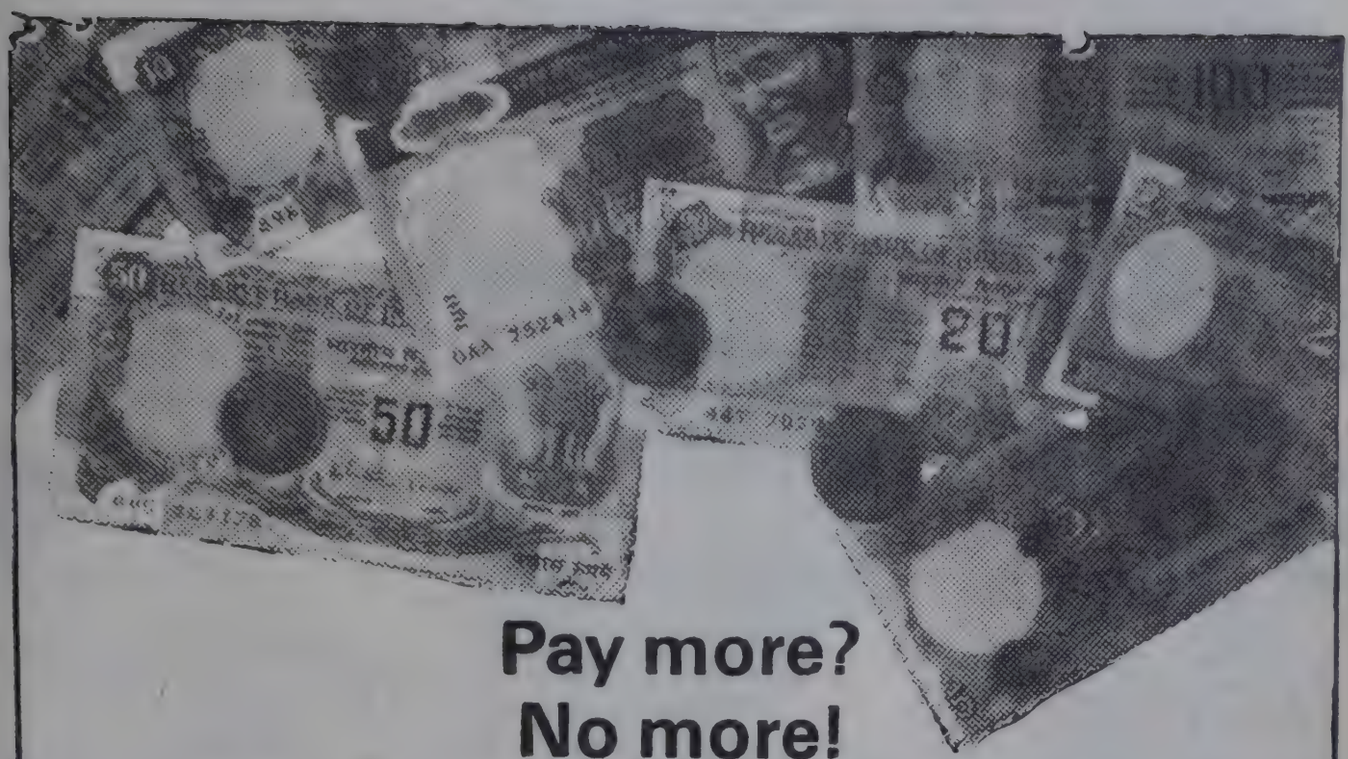
For Your Regular Requirement Of:

LITHIUM CARBONATE
LITHIUM CHLORIDE (Mono/Anhyd.)
SODIUM FORMALDEHYDE BI SULPHITE (Photo) grade
PHENYL HYDRAZIN HYDROCHLORIDE
SODIUM CYANATE
SODIUM POTASSIUM CYANATE
SODIUM SULPHITE -- SUPERFINE (Photo) grade
AMMONIUM THIOSULPHATE 60% (Photo) grade
SODIUM CARBONATE Mono/Anhydro (Photo) grade
MEGALDRATE USP
COMPLEX CYANATES

Please contact authorised manufacturers Agent:

M/S. GAURAV ENTERPRISE

33, Sarvodaya Charity Trust Building, Gokhale Road (South), Dadar, BOMBAY - 400 028
Telephones: 4309513/4309597 Telegram: PUSHPACHEM--Bombay-28
In Baroda Contact: Mr. JAYESH H. SHAH, 307, Sitaram Apartments, Near Manusmruti Hos
Ellora Park, Baroda - 390 007. Phone: 322670.



Pay more?
No more!

Triethylamine

now easily available from Alkyl Amines.

You will be pleased to know that our production of Triethylamine has been stepped up.

For you, this means two happy things. One, supplies off the shelf. Two, reasonable prices!

Comparable to international standard, our Triethylamine finds wide use in agrochemicals, pharmaceuticals, as a catalyst in foundry and perfumery industry.

For ready supplies, simply contact:

Alkyl Amines Chemicals Limited

401-407, Nirman Vyapar Kendra, Plot No. 10,
Sector—17, DBC, Vashi, New Bombay-400 703
Tel: 0215-682535, 682536. Telex: 011-76098.

A trusted name in Chemicals.

OrbM/AACL/356 87

For Your Requirements Of:

AMMONIUM MOLYBDATE (99.9% PURE) SODIUM MOLYBDATE (Assay 99%)

CADMIUM -- CHLORIDE/ SULPHATE/CARBONATE/OXIDE/NITRATE

BISMUTH -- NITRATE/OXIDE/CITRATE/SUBCARBONATE/OXYCHLORIDE/SUBNITRATI

COBALT -- NITRATE/CARBONATE/ACETATE/CHLORIDE/SULPHATE/OXIDE/OXIDE B

POTASSIUM -- IODIDE/IODATE

EDTA DI SODIUM SALT

Contact Manufacturers

MONARCH CHEMICAL INDUSTRIES

Admn. Office: 25, Old Sattagali (Kaviniray Gali), Tarachand Ghanshyamdas Bldg.
1st Floor, Sheikh Memon Street, Bombay - 400 002
Phones: Office: 318998/319814 Resi: 8129380/8127641

FOR YOUR REQUIREMENTS OF:

Ammonia Gas PURITY 99.5% IN CYLINDERS OF 40 & 50 KGS ROAD TANKERS OF 5, 6, 7 M.T.

Ammonia Liquor SPECIFIC GRAVITY 0.910 & 0.888 IN ROAD TANKERS, 7-9 M.T. DRUMS, CARBOYS & BOTTLI

Please Contact: **ASCO CHEMICAL COMPANY**

61, Bombay Talkies Compound, Post Box No. 17629, Malad (West), BOMBAY - 400064
Telephones: Off.: 691151/685667; Resi: 575775; Grams: "PAGODA" Malad, Bombay
Factory: Plot No. 4, Mira Co-op. Industrial Estate, Mira, Dist. Thane. Telephone: 663691

And Also Available At Ankleshwar (Guj).

ANKLESHWAR AMMONIA SUPPLY CO.

Plot No. 6508, GIDC, Ankleshwar, Gujarat
Tele: C/o. 2828 -- ANKLESHWAR

WE OFFER

METTUR CHEMICALS'

TRICHLOROETHYLENE
CAUSTIC SODA FLAKES

Ex-godown Bombay/Bhiwandi

Contact: Consignee Agents for Mettur Chemicals

PLUTO CHEMICALS LTD.

5-B, 'Avsar', 77/81, Kazi Sayed Street,
Mandvi, Bombay - 400 003
Tel. 338422/325373/336178/338474 Tlx: 11-73887 PRBT IN

Name The Industry
We have Products to offer

OIL &
ETROLEUM INDUSTRY

DEMULSIFIERS
ILSIFIERS DEFOAMER
SURFACTANTS

PHARMACEUTICAL
& COSMETIC

OINTMENT BASES
POLYSORBATES &
POLYGLYCOLS AS PER
USP, BP

SURFACTANTS

TECHNO

CHEMICALS

TEXTILE &
UXILIARY INDUSTRY

VETTING AGENTS
EVELING AGENTS
TNERS, DEFOAMERS
EMULSIFIERS

MAN MADE
FIBRE INDUSTRY

ANTI STATIC AGENTS
CONING OIL
CRIMPING OIL
SPIN FINISHERS
SOFTNERS

PESTICIDE
FORMULATIONS

PESTICIDE EMULSIFIERS
DISPERSANTS &
SOLUBILISERS
For
EC FORMULATIONS

QUALITY ASSURED
PROMPT DELIVERY

DEFOAMERS
FERTILIZER & PAPER
INDUSTRY

E OFFER FULL RANGE OF NONIONICS EO CONDENSATES,
POLYETHYLENE GLYCOLS, EMULSIFIERS,
WETTING AGENTS, DEMULSIFIERS

TECHNO PRODUCTS
(BOMBAY) PVT. LTD.

Sales Office :

-35 ISLAM BUILDING, 46, VEER NARIMAN ROAD, OPP AKBARALLYS, BOMBAY 400 023.
TELEPHONES: 2046906 Factory : 5125077-5409 GRAMS: "FERRICOLS"

For your regular Small & Bulk Requirements Of:

PVA PVA POWDER (ALL GRADES), EMULSIONS, SOLUTIONS, STARCH, DEXTRIN, BORAX, GLYCOLS, PHTHALATES, OTHER CHEMICALS & RE

CONTACT :

Ad-Chem Agencies

SOLE DISTRIBUTORS OF **SYNESOL** INDUSTRIAL ADHESIVES
FOR FURNITURE PACKAGING & WALL PLASTERING

OFF: 231, GODAVARI MHATRE ROAD, DAHISAR (W), BOMBAY-400068.
PHONE: 66 28 28 TELEX: 011-2810 AMAR IN

For Your Requirements Of:

ZINC ASH, ZINC DUST, ZINC OXIDE (OFF COLOUR
BRASS ASH & COPPER ASH

Very Suitable for

Zinc Sulphate & Copper Sulphate

WE PURCHASE

Scrap -- Waste -- Ash -- Residues of

NICKEL -- TIN -- COBALT AND OTHER NON-FERROUS METALS

Please Contact: **HINDUSTAN METALS**
13, Broadway Shopping Centre, 1st Floor, Dadar T.T., Bombay-400 014
Gram: 'RESIDUE' Bombay-400 014 **Phones: 4121356/412701**

PETROLEUM ETHER 40-60°/60-80°/60-95°/80-100°/80-120°/95-110°/100-12

Also Available L.R./A.R.

n-HEXANE (65-70°) **n-HEPTANE** (90-1

EMULSIFYING WAX

Ethyl Butyrate
Amyl Butyrate
Iso Amyl Alcohol (128°-132°)

Methyl Orange
Schaeffer's Acid (As Sodium Salt)
2:4 Di Nitro Phenyl Hydrazine

Mix Xylene (138°-142°) (Meta-Para-Ortho)

Contact Manufacturers:

STERLING ORGO & INORGO CHEMICAL PVT. LTD.

Plot AF-1, Cama Industrial Estate, Walbhat Road, Goregaon (East),
BOMBAY - 400 063. **Phone: 699458/684593**

BEST BY EVERY TEST

PVC STABILISERS

ORGANO TIN STABILISERS

METALLIC STEARATES

(Calcium, Barium, Cadmium, Aluminium, Magnesium, etc.)

LEAD STABILISERS

PVC Processors, Please Contact the Manufacturers:

GP

NDHI PAREKH INVESTEMENT CORPORATION LIMITED

Registered Office: Maker Bhavan No. 2, 18, New Marine Lines, Bombay 400 020.
Phone: 252559/251723 * Gram: 'JYOTIJOM' * Telex: 011-2081 INCC-IN

Works: (1)Lal Bahadur Shastri Marg, Ghatkopar, Bombay 400 086.
Phones: 582293 / 582835

Plot No. 1, Nandesari Industrial Area, P.O. Nandesari, Dist. Vadodara-391 340, (Gujarat State)
Phones: 221-222-223-286 * Gram: 'PLASTICIZER', Nandesari, Vadodara
Telex: 175-394 INCC IN

BROMIDES·IODIDES

OTHER FI
CHEMICA

- POTASSIUM IODIDE I.P.
- POTASSIUM BROMIDE
- SODIUM IODIDE I.P.
- SODIUM BROMIDE I.P.
- AMMONIUM IODIDE I.P.
- AMMONIUM BROMIDE
- COBALT SULPHATE
- AMMONIUM CHLORIDE
- SODIUM POTASSIUM TARTRATE I.P.
- ANTIMONY POTASSIUM TARTRAT

CONTACT MANUFACTURERS :

SATYAM
PHARMA-CHEM PVT. LTD.

REGD. OFFICE : 16-17 GOLD MOHUR BLDG.,
174, SHAMALDAS GANDHI MARG,
P.O. BOX NO. 2838 (KALBADEVI), BOMBAY-400 002
TEL.: OFF : 311118 • 311278 • RES : 822 9111
CABLE : "CHEMREPACK" • TLX NO.: 011-6581 SPCL IN

AVAILABLE AT MOST COMPETITIVE RATES

ACID SLURRY

SOFT AND HARD ANY QUANTITY

KRIPA CHEMICALS PVT. LTD.

Admn. Office:
8/9/10, 'Royal Chambers',
S.No.47, Paud Rd., PUNE-411 038
Phone: 33245

Branch Office:
House No. 1024, 10th Main Road
West of Chord Road
IIIrd Stage, 1st Block, BANGALORE-5

For most competitive quotation, best quality, prompt delivery
and after-sales service for following items

EUGENOL
CLOVE OIL (Rectified)
CLOVE OIL (Pharma Grade)
FOLDED OILS

CINNAMON OIL
LEMON OIL
ORANGE OIL

Please Contact Manufacturers:

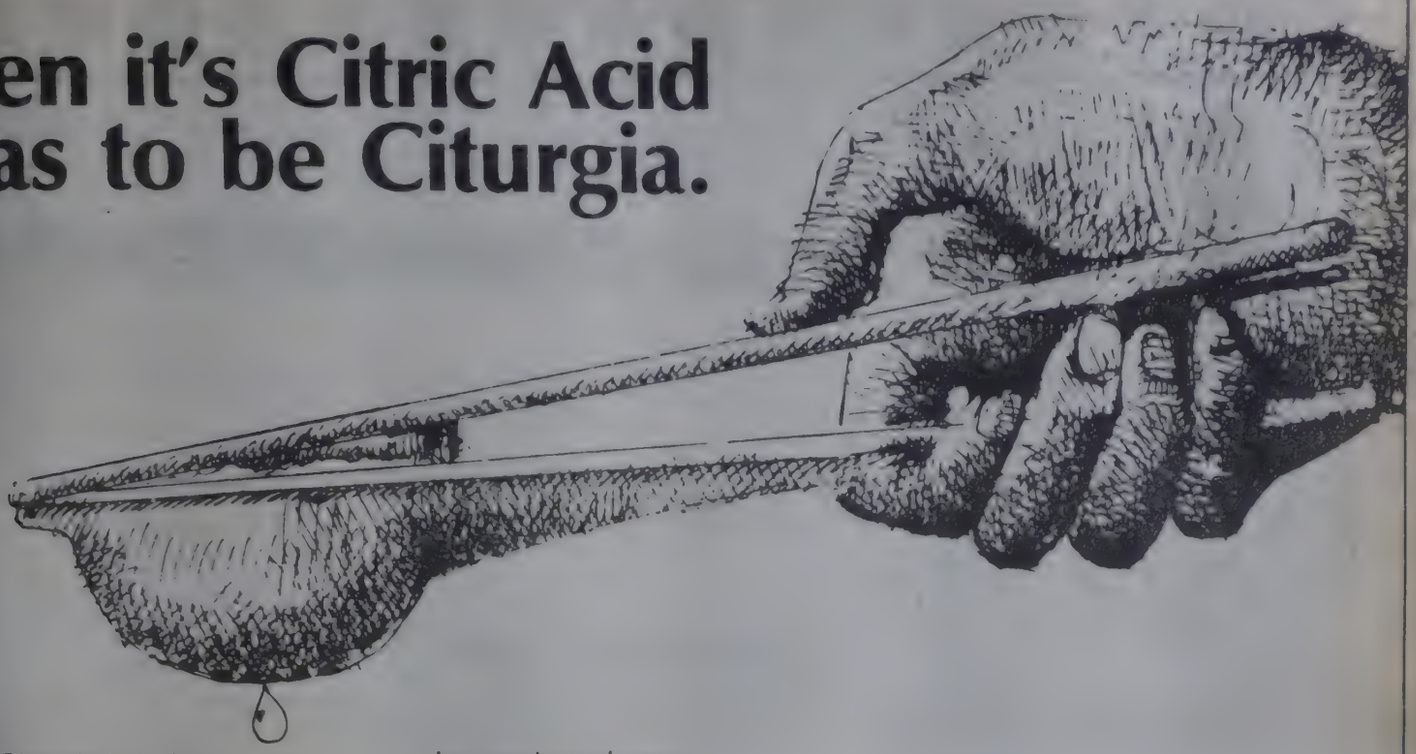
CHEMICAL PROCESS CONSULTANTS

Unit 202, Adarsh Ind. Estate, Sahar Road, Chakala, Andheri (East),
BOMBAY - 400 099

Tel: 632 5855

Gram: KEMIPROSS

hen it's Citric Acid has to be Citurgia.



name Citurgia is today nymous with Citric of the finest quality. gia caters to more just one need in than just one stry. Besides the ional usage of : Acid in food, drinks, ectionery and s, today the uses tric Acid extend w areas: he textile ing and dyeing stry it provides ABLE pH litions for ester and nylon. lso for acrylic s curing and on-resist printing. c Acid has cessfully aced imported aric Acid ause of its ellent quality.

low costs and easy availability. Also, it is a very safe acid compared to other organic and inorganic acid salts.

* Citric Acid prevents flavour deterioration, rancidity and discoloration in edible oils.
* It imparts an acidic taste to dry powdered drinks.
* It is also used as a descaling solution.

Citurgia Biochemicals Ltd. is the largest producer of high quality Citric Acid in India. Besides catering to the domestic demand, Citurgia's Citric Acid is exported to USA, Japan, Germany, Australia, Iran, Malaysia, Sri Lanka and other countries.

Citurgia Citric Acid India's No.1

TURGIA BIOCHEMICALS LIMITED
off Neville House, J N Heredia Marg, Ballard Estate, Bombay 400 038
Tel: 268071 Gms: CITURGIA BOMBAY

Tlx : 11-73372 BDM IN

CS/285

Peroxid-Chemie GmbH

CATALYSTS AND INITIATORS

INTEROX BP
(DI-BENZOYL PEROXIDE)

INTEROX LP
(LAURYL PEROXIDE)

INTEROX MEK-P
(METHYL ETHYL KETONE PEROXIDE)

AMMONIUM PERSULFATE

POTASSIUM PERSULFATE

SODIUM PERSULFATE

·CHIKA·

CHIKA LIMITED

Mehta Chambers, 13, Mathew Road, Bombay-400 004.
Phone : 8113456/1457 Cable: "DYECOLD" Telex: 11 75562 and 11 75534
Branches :
AHMEDABAD : Ashram Road. CALCUTTA : 36 Ganesh Chandra Avenue
MADRAS : 122 Mount Road, NEW DELHI : 25/1 Asaf Ali Road

CHEMICAL WEEKLY

VOL. XXXIII JANUARY 19, 1988 NO. 19

Coal Prices Hiked Again

ndia Ltd. (CIL) has been authorised by the Union Gov- nent to raise the (average) coal price at pit head by r tonne, with effect from 23rd December 1987. This evision raises the average pit head price of coal from r figure of Rs. 190 which has been in force from Jan- 6 to Rs. 219 per tonne. This revision is reported to d on the findings of an indepth study carried out by au of Industrial Costs and Prices. The Bureau has o years to complete the study; imbated in1985 the as submitted in October 1987.

rice rise will enable CIL to raise its revenue by Rs. es for a full year. The accumulated losses of CIL as 1986 stood at Rs. 1600 crores of which Eastern Coal nd Bharat Coking Coal Ltd., accounted for Rs. 700 nd 800 crores respectively. The tragedy of the nation- dian Coal Industry is that the cost of raising one tonne as always been higher than the pit head selling price the Union Government by a few rupees. The cost of on for the Coal India Group of companies rose to Rs. 1985-86 as against the then weighted average price The Annual report of the Coal Department had esti- e cost of production for 1987-88 at Rs. 225.12. Thus dy persists and even the hiked selling price will fall nne short of the actual cost. Thus prospects of Coal ming out of the red solely by the adjustment of price ism are indeed dim.

mperative need for higher productivity by way of d output per man shift (OMS) as the only means of ng the spiralling costs will be fully appreciated from hat salaries, wages and administrative costs account of the pit head costs. Stores, power and internal trans- ount for another 23% with depreciation and other items the balance. It is an admitted fact that excessive rce, poor productivity and ineffective management are auses of Coal India's losses. The current OMS figure tonnes is abysmally low compared to other coal pro- n the West or even in China. The OMS target of 1.21 for the closing year of the seventh plan too is far from mbitious.

are persistent complaints about the quality of coking -coking coals as supplied to the consumers. The spe- mplaints are: (1) high ash and low coking propensity coking coal supplies to the steel plants; (2) oversize d presence of extraneous matter in supplies to power and (3) inadequate availability of proper grade of coal for chemical, cement, glass and pottery industries. The coal companies have a programme of improving coal quantity by the adoption of better mining methods in open cast mines and provisions of coal handling plants (CHP). At present about 70% of the coal produced passes through CHPS; by 1990-91, 100% of coal production are expected to be handled by CHPS.

A major impediment in the effective use of Indian coal in metallurgical industries and thermal power plants has been its poor quality and ash content ranging from 30% to as high as 45%. Wide fluctuations in content of ash and finely dispersed dirt even in a single coal seam are also deterrents. With plans to mine deeper for increasing coal output and progressive adoption of mechanical mining methods for increasing productivity, the problem of low quality coal is expected to be a perennial phenomenon. The rule of thumb is that every additional one per cent increase in ash in the coking coal used in steel plants leads to about a 3% increase in coke consumption, accompanied by a fall in blast furnace productivity by about 3.5%. In the case of thermal power stations, the use of high ash coal in large boilers leads to major technical problems resulting in underutilisation of installed capacity and an increase in the repair and maintenance costs.

There were 16 operating washeries in India in 1980, having a capacity of 20.50 million tonne/year. Nowrozabad is the only washery for non-coking coal installed for a cement plant for reducing ash and heavy pyrites. The remaining 15 wash coking coals. They have a total capacity of 7,140 tons per hour or an annual raw coal input capacity of 27.6 million tonnes. Individual capacities of these plants vary from 700 to 800 tonnes per hour, the average lying within the range 500-600 tons per hour. Jigs constitute 25.3%, heavy medium separators 33%, and heavy medium cyclones 32.5%, slurry upgradation technologies including froth floatation 4.2%. The difficult washability characteristics have caused complex flow schemes, finer crushing of raw coal feeds and high proportion of middlings. Bulk of Indian coking coals have more or less the same characteristics of that of normal middlings from the European or North American coals. Many of the not-too-old washeries have ratio of clean coals, middlings and rejects as 50:40:10. The high middlings create many problems, including storage and disposal. Many new washeries are being planned expecting lesser share of clean coals because they would handle coal more difficult to wash. As many as 18 non-coking coal washery sites of capacities 1-10 million tons are being investigated for the washability characteristics of coal for use in power plants. Presently, they are limited to washing only lump coals

to size above 25 or 12 mm. Washery project reports on Jhingurdah (3 mt/yr) and Bina (4.5 mt/yr) in the Singrauli coalfield for supply to power plants are being discussed.

There is a general impression among the Coal Scientists in India that Indian non-coking coals are not amenable for washing, and that the cost of beneficiation of non-coking coal cannot be justified since the reduction in ash content is insignificant and not worth the expense incurred. Another objection, often openly expressed by major consumers like power stations is the fact that the increase in calorific value, if any due to beneficiation is more than offset by the increased moisture content and the freight carges they have to incur on transport of additional extraneous moisture. The price differential between clean coal and raw coal is still not wide enough to attract the consumers. All these are mainly commercial aspects and the real breakthrough can come only on the technical front when our scientists evolve new revolutionary concepts for effectively bringing down substantially the ash content of non coking coal.

Another major criticism against the present system of pricing of coal is the irrefutable fact that the price structure for different grades based on Useful Heat Value (UHV) is far from rational. An analysis of the price of coal (pre-revision figures) reveals the following facts. Inferior grades of coal cost more per unit of heat value than the comparatively superior grades, with the result that under the existing pricing structure, grade G and D coal cost more than even the grade A and B by Rs. 9.56 and Rs. 1.72 per million kilo cals at the minimum of respective grades. Further, for no apparent reason, grade E coal has been priced the lowest at Rs.41.22 per mil. kilo cals.

The inter-grade price differentials also seem to have been fixed in an ad-hoc manner. While a rational pricing structure should have an in-built price differential to adequately compensate the consumer for using inferior grade coal, no such consideration seems to have been given in framing the existing pricing pattern.

Since the price in each grade is at present based on the lowest UHV (Useful Heat Value) (in K cal/kg) in the specified range in a particular grade, and since there is no built-in incentive for supplying coal with higher heat value covered in the grades from purely commercial considerations the supplier has no motivation to supply coal of a higher UHV covered in the grade. This probably explains the frequent complaints of the coal consumers that the coal supplies received by them are mixed with large qualities of shale, stones and other extraneous material which causes extensive damage to their equipment and machinery. Further, logically the comparatively inferior grades of coal should be priced much lower per unit heat value to compensate the power industry for the higher capital as well as operation and maintenance costs incurred by them due to reduced boiler efficiency, increased auxiliary consumption and reduced plant availability.

The Coal Consumers Association of India has criticised the latest across the board hike in coal prices. It is feared that the price rise will fuel inflationary pressures in the economy at a time when the country is yet to recover from the adverse effects of drought and recessionary trends are surfacing in several sectors. The CCAI says the report that the average price hike from Rs. 190 to Rs. 219 a tonne of coal of collieries under the Government owned Coal India Ltd. (CIL) is "misleading". According to CCAI the gradewise break up of actual rise in prices of long flame Raniganj coal is given alongside:

(in rupe

Grade	Price hike	State Govt. Cesses	Sales tax
A	55.00	13.75	2.75
B	51.00	12.75	2.55
C	45.00	11.25	2.25
D	13.00	03.25	0.65

Even in the case of ordinary inferior grade 'E' and the price hikes would vary from Rs. 37.50 to Rs. 32.5 "It will be observed that the coal price rise for good q is not Rs. 29 a tonne as announced but in fact its far more, almost double," the association says.

The Union Government's decision to allow Coal (CIL) to increase coal prices will have a cascading the various sections of the economy. The cost of p of a number of industries, particularly, power, stee and fertilisers will move up. As a result, either these will be forced to raise the prices of their produces losses. The worst hit will be the thermal power pla consume between 40 and 50% of the country's coa tion. As it is, the State Electricity Boards suffered los ling Rs.1580 crores in 86-87 and Rs.1545 crores

It has been estimated that at the 1984-85 rates losses suffered by SEBs during the Seventh Plan w Rs. 11,757 crores. Now that coal prices have moved have a difficult choice -- either end up the Plan with losses or raise the power tariffs. While the first optio ple their finances further, the second one is difficult present political conditions. The soaring SEBs losses for the Seventh Plan period have to be viewed a backdrop of the fact that their commercial losses entire Sixth Plan stood at Rs. 4,472 crores. Interestin finalising the Seventh Plan for the power sector, i sumed that SEBs would mobilise additional resour tune of Rs. 7,000 crores. The poor financial health of and their power generating organisations can be gau the fact that as on June 30 last, between themselves t Coal India Ltd. over Rs. 770 crores.

During the first six months of the current finar (April-September), the sector-wise lifting of coal was 37.74 million tons, steel 9.21 million tons, cement 3. tons, fertilizers 1.73 million tons, railways 3.19 million others 15 million tons. According to CCAI, the addition on various coal consuming sectors in 1988-89 is e as follows: Power houses Rs. 130 crores, Steel ovens Rs. 100 crores, Railways Rs. 13 crores, Ferti 20 crores, Cement Rs. 35 crores, Soft coke Rs. 2 cr brick and other industries Rs. 100 crores. Consequ the price hike, aditional cesses and other State le amount to about Rs. 50 crores. The last price hike (was on January 2, 1986 at Rs. 32 a tonne. Even aft into account the recent price increases, it is feared is likely to be in the red as they are believed to be in to meet fully its costs. The Calcutta-based Consum and Trust Society (CUTS) has also criticised the inc administered prices of coal, steel etc. as "unwarran urged the Centre to rescind its decision. In a resolutic "This is a classic case of contradiction where on the o the Government advocates a policy for holding the and on the other increases the administered prices." ety has demanded immediate implementation of the mer Protection Act, 1986 so that the aggrieved consur fight for their rights.

– T.P.S.

HEMARENA

VENKITESWARAN

Upsurge in Polyethylenes

thylene, the top among plastics, is again on the ith surging demand and tight supplies. India is napping with no new production expected till 89 and need huge imports from a sellers' mar- ethylene demand has grown faster as prices en 25% lower than in 1981, largely as a result asy situation in petroleum. The lower prices n the substitution of paper, glass, metals from eas of usage. A lot of restructuring and shut old plants in US and Europe have stepped up utilisation to high levels and recent trends are llenecking and increased productivity and pro- provements to raise production. The US has a happy positiion with lower prices but this year prices have also moved upwards in line with arket and producers have higher profit margins uld induce investment in newer plants. Prices touching 40 cents a pound and production 17 unds. A recent list of producers with types and s is shown in the Table on p.36. The interest- re is the rise of HDPE which may overtake the LDPE in the early nineties. US exports of pol- e was 13% of the output but is now set for a due to pressure of US demands and higher prices.

eresting feature of the newer trends is the crea- acilities with "Swing" capacity for LLDPE or s per market demands. It is estimated that 200,000 tonnes of capacity can be geared for atile LLDPE or for HDPE. The polypropylene as not cut into that of polyethylenes and growth parallel. One major problem that has arisen the supply of ethylene for which there has been se in capacity. The list of ethylene makers with is shown in the Table alongside and now over ethylene goes into polyethylene. Ethylene plant is said to be 98 to 99% of rated capacity at plants. The creation of ethylene capacity is a mplex one with linkage to feedstock supplies es and higher investments. The efforts at nts and debottlenecking and what is termed creep" does not add much to the production re than 1.5% per year, far below the growth nd. There is likelihood of some "mothballed" capacity being revived and a cut in exports of polyethylene or other ethylene derivatives-tighter markets for ethylene dichloride, vinyl acetate and styrene. Overseas capacity coming up in the Gulf may take over part of the US exports as some of these projects are linked to US producers. Presently derivatives exports are said to account for over 6% of US ethylene production. But the world markets have been upset by an explosion in the Saudi Arabia gas processing plant which may take months to get over.

All in all, India is in for a hard time with a large gap between demand and production, accentuated by the shutdown of Union Carbide's small capacity and IEL's uncertain production from alcohol supplied from distant UP with a high tax load.

THE ETHYLENE MAKERS IN USA FEEDING PE PRODUCERS

Producers	Capacity
Amoco	2,100
Aristech	500
Cain Chemical	2,425
Chevron	2,150
Dow Chemical	3,700
Du Pont	950
El Paso	520
Exxon	2,900
Goodrich	350
Lyondell	2,800
Mobil	1,050
Oxychem	500
Phillips	2,140
Shell	4,340
Sun Olin	225
Texaco	1,000
Texas Eastman	1,200
Union Carbide	2,850
Union Texas	780
USI	2,100
Vista	660
Total	**35,240**

* Capacity is in million pounds a year, 1987.

POLYETHYLENE -- WHO MAKES HOW MUCH IN USA

Producer	Total	LDPE	HDPE	LLD/HDPE	Additions 1988/1
USI	3,275	1,785	1,240	250	300 LLDPE 2Q 198 600 LLDPE by end
Dow	2,310	905	180	1,225	320 LLDPE by end
UCC	2,115	495	--	1,620	600 LLDPE by end
Chevron	1,475	900	575	--	--
Phillips	1,380	--	1,380	--	105 HDPE 3Q 1988
Exxon	1,150	500	--	650	--
Soltex	1,050	--	1,050	--	--
Allied	1,025	--	1,025	--	95 HDPE 2Q 1988
Mobil	1,000	500	--	500	--
Cain	900	--	900	--	--
Du Pont	760	760	--	--	--
Eastman	625	625	--	--	--
El Paso	535	535	--	--	--
Amoco	350	--	350	--	--
Hoechst	250	--	250	--	100 HDPE 4Q 1988
Westlake	200	200	--	--	--
Total	**18,400**	**7,205**	**6,950**	**4,245**	**2,120**

Chemical Spills into Rhine

It was over a year ago that a large volume of toxic chemicals found their way into the Rhine river at Basle in Switzerland from the warehouse of the major chemicals firm Sandoz at Scheweizerhalle. There were huge floating masses of dead fish and serious apprehensions on the recovery of the Rhine river as a source of much needed water supplies along its cross country passage through France, Germany and Holland into the North Sea. Rhine is to some extent the Ganga of mid-Europe and a source of water for domestic and industrial uses.

If the industry were in some way to damage the water supplies, the very life line of Europe would be threatened and several countries have to cooperate and coordinate in keeping the river free of pollutants. Fortunately much of the fears to the marine life in the river have proved to be unfounded and the Rhine is said to have fully recovered from the pollutants which accidentally got into its waters. The spillage was accidental in that the water used for fighting a fire which broke out in the tank farm burst the protective bunds and poured into the river along with the chemicals which burst out of the blazing tanks. One serious complaint was that the downstream centres were not alerted to the spill and mishap and were caught unawares. The mishap was not the result of any plant operations but the inadequacies of storage and warehousing facilities which had not been brought in line with the expansion of production facilities.

But the Rhine mishap has resulted in a wide awakening to the present inadequacies and a firm decision to see that such a mishap does not occur again. Both Sandoz and Ciba-Geigy, the other chemical g spending enormous sums on a 3 year progr reduce pollution risks. Many old warehouses h closed and conditions improved in many more which are on the river front which is the easies of access to world markets from land-locked land. A new concept of storing and protecting according to the risks involved has been put ir tice. The operations of plants are being realigr based on minimum quantities of intermediates process operations such as for dyestuffs, phar icals and pesticides. Sandoz has totally cut off cury containing products which was the major the Rhine Spill. Even more important is that th chemical firms all along the Rhine and other riv opened out in their efforts to win public confiden are anxious to show off what they have alrea to ensure safety from pollution. The naturally s chemical giants have been more communica journalsts and the public. BASF is perhaps t complex chemicals producer with 300 separat and 7.8 million tonnes of output and has inves $810 milion on environmental safety with a fu lion dollars to be spent in the next few years f ments, incineration and other ways of dispos

It is distressing to note that in India we had deaths only recently from eating fish which ha poisoned by pollutant chemicals in the Thane Cr had a Bhopal disaster but let us not have to Minamata type disaster before waking up to c pollution.

For Competitive Imports of Chemicals, Pharmaceuticals
Raw Materials and Particularly for the Following Items

Dimethyl Formamide
Hydrogen Peroxide
Morpholine
Ethyl Aceto Acetate
Methyl Aceto Acetate
Acetone
Iso Propyl Alcohol
Iso Butanol

PLEASE CONTACT WITH YOUR SPECIFIC REQUIREMENTS

CHEMET

EAD OFFICE:
aj Building, 1st floor, P.B. No. 195,
10 Dr. D.N. Road, Bombay-400 001.

Phones : 2043803/4/5/6/7
Cable: DEGUCHEM Bombay
Telex: 11 3229/ 11 4631 DGKM IN

ALCUTTA OFFICE:
arma House, 3rd floor, 1/2 Lord
nha Road, Calcutta-700 071

Phones : 447306/446155
Cable: DEGUCHEM Calcutta
Telex: 21 3325 DGKN IN

IADRAS OFFICE:
) Kondy Chetty Street, 1st floor
B. No. 1709, Madras-600 001

Phones : 22447/27617
Cable: DEGUCHEM Madras
Telex: 41 7554 DGKM IN

ELHI OFFICE:
4, Hans Bhavan Wing No. 1 Bahadurshah
fer Marg, New Delhi-110 002

Phones : 3311373/3319787,3319791
Cable : DEGUCHEM NEW Delhi
Telex : 31 65921 DGKM IN

Norms to regularise drug production

The Union Industry Ministry has announced the guidelines that would be followed for regularisation of production of drugs and pharmaceutical items as per the new drug policy.

A press note has been issued by the Ministry, which stipulates that these guidelines are the same as those which were issued on June 29, 1981 for endorsement of productive capacity on registration certificates and fixation of capacity in relation to carrying-on-business (COB) licences.

The need for regularising drug production was underlined in the new drug policy, announced in December 1986. The policy had stated that a large number of formulations were being produced ranging from one-to-two decades with industrial approvals which were being questioned.

The policy noted that "a majority of these drugs are claimed to be covered under notification issued in the 1960s and 1970s under Section 29 of the IDR Act, Announcing exemption from industrial licensing, subject to some conditions. However, COB licences could not be issued in many cases because of non-fulfilment of one or more of the conditions subject to which the exemptions were granted".

The policy had further noted that "having regard to the fact that the infraction in most cases are technical and that the products have been accepted by the medical profession, the Government have decided to regularise the production of all such formulations and surgical aids".

"Another major category comprises items claimed to be covered under notification issued in the 1960s and 1970s under Section 29B of the IDR Act, announcing exemption from industrial licensing, subject to some conditions. However, COB licences could not be issued in many cases because of non-fulfilment of one or more of the conditions subject to which the exemptions were granted."

The policy had further noted that "having regard to the fact that the infraction in most cases are technical and that the products have been accepted by the medical profession, the Government have decided to regularise the production of all such formulations and surgical aids.

The guidelines for regularisation of production are as follows:

(1) The fixation of productive capacities for endorsement on registration certificate will be with reference to the specified dates of (a) 31.3.76 for industries covered by notification of 5.7.75 (b) 31.3.77 for industries covered by notification of 26.11.76 and (c) 31.3.78 for industries covered by notification of 13.1.1978.

(2) Where capacities have not been fixed so far, these will now be fixed under the revised guidelines. Where capacities had already been fixed, holders of registration certificates, if they so desire, may approach the administrative ministries for refixation of capacities in accordance with revised guidelines.

(3) In respect of items not reserved for small-scale sector, the principle of installed capacity as on the respective dates specified in (1) above, tested by the balanced line capacity would be applicable. The highest production achieved during any of the three years ending with the specified date would also be used for testing the claim of installed capacity claimed by the applicant.

(4) For reserved items, the highest annual production in any of the three years ending with the specified date, if accepted by the applicant, would be endorsed. If however, the applicant claims higher installed capacity than that evidenced by the best annual production, the following principles would be followed:

(i) The claimed higher capacity in the specified date would be tested by the application of 'balanced line capacity'.

(ii) Once the "balanced line capacity" method has determined the installed capacity, that capacity would be considered for endorsement on the following basis :—

(a) Either the applicant undertakes to export annually 100 per cent of the difference between the capacity to be endorsed and the level of highest annual production achieved as mentioned, for a period of five

(b) He must undertake to 50 per cent annually of the d between the capacity to be and the level of highest pr achieved as above mentioned, period of 10 years.

In either case, export obliga be covered by the usual bond by the CCIE for units with ex ligation.

These guidelines would appl case carrying on business also, in whose case the specif or date relevant for fixation c city would be the date on whi came incumbent on the undert apply for and obtain a COB li

Under the procedure laid do the case of industrial undertak belonging to MRTP houses ar companies, joint secretaries in ministrative ministries c with the industry are authorised a final decision and intimate t to the Secretariat for Industria vals (SIA) for endorsement on levant registration certificate c licence. In the case of industr dertakings belonging to MRTP RA companies, the endorsemer pacity on the registration certi COB licence will be with the of the appropriate approval tees.

"WORKSHOP ON BETTER MARKETING"

The Scientific glass equipn nufacturer's association, M Building, Mangaldas Road, 400 002, is organising a work "strategies for quality prod better marketing" on 20th Jar at Oberoi Towers. It is organ collaboration with Small I Service Institutes (Govt. of In Bureau of Indian Standards B

For the first time a special duct display for the complete scientific and laboratory glass tus is being held. The laborat ing a vital role in R & D and control activities, is the nerve of all process industries as academic, scientific, medical dustrial research institutions. ducts display will offer ideal n ty to suppliers and hundreds pective buyers who will visit b tion. Further details can be the Association.

Available From Ready Stock :

SYNTHETIC IRON OXIDE RED–Grade 225
SYNTHETIC IRON OXIDE RED–Grade 473

Packing 25 Kg. Nett Bags :

Manufactured By :

OUR SISTER CONCERN

M/s. CORAL CHEMICALS PVT. LTD.

SONEPAT, HARYANA

Actual Consumers, Dealers & Stockists

CONTACT :

PRIYA CHEMICALS

HEAD OFFICE :
Podar Chambers, 4th Floor
S. A. Brelvi Street,
Bombay–400 001.
Phone 2860596-2863611-2863676
2863783-2863900
Telex : 011-5495 PRIA-IN
011-2472 PODR-IN

BRANCHES : HYDERABAD OFFICE :
Prashanthi Commercial Complex, 6-9-30/8 to 8/B
IInd Floor, Basheerbagh, Hyderabad-500 029.
Phone : 236068

DELHI OFFICE :
Flat No. 8. 10th Floor, Akash Deep Bldg.
Barakhamba Road, New Delhi–110 001.
Phone : 3314512
3310413

BANGALORE OFFICE :
Devatha Plaza, 131/132, Residency Road,
Bangalore–560 025.
Phone : 564027

MADRAS OFFICE :
No. 5. Manikeswari Kilpauk, Madras–600 010
Phone : 663632

CALCUTTA OFFICE :
8, Lyons Range, Calcutta–700 001
Phone : 203671
208951

Dr. O. P. KHARBANDA

Frankly Speaking

DR. O. P. KHARBANDA
Cost & Management Consultant,
501, Olympus, Altamount Road, Bombay-400 026.
(An author of repute and a visiting professor, Dr. Kharbanda consults worldwide including to UNIDO.)

Marriage of Convenience

Sponsorship of the recent World Cup in cricket by Reliance is termed a 'marriage of convenience'. Such marriages are quite widespread, estimated at some 2500 in UK alone, and important enough to warrant a special 5-page BUSINESS SPONSORSHIP supplement by the prestigious Financial Times (Nov. 9 1987). The main beneficiaries of the sponsorships are : arts, sports and charities, sports sponsorship perhaps accounts for nearly 3/4th of $350 million estimated revenue.

Sponsorship business has grown large enough to justify the first ever national sponsorship exhibition under the style of Business Sponsorship Link and even the formation of an Institute of Sports Sponsorship (ISS). Taking part in this Nov. 1987 exhibition were over 100 exhibitors, perhaps an indication of the number of specialist sponsorship consultants, and every facet of the sponsorship scene was covered. Some of the practices being followed in this sponsorship business are giving the business a bad name, e.g., some of the consultants often have divided and even conflicting interests. Further not all the money donated by a firm reaches the beneficiary, as was revealed by a chance meeting of the donor and the recipient in the field of sports. A code of practice is yet to be established in order instil a level of confidence and integrity among the parties. These and many other pertinent factors are detailed by a consultant, Stuart Turner in his practical and basic guide on the subject, Practical Sponsorship (Kogan Page) .

What is the real motivation for a sponsorship? In the context of clutter of current advertising media, it is becoming increasingly difficult for a company to be heard. Sponsorship is particularly seen as an ideal mode to :

* Rejuvenate a corporate image
* To pave the way to new product launch
* Provide defense for a company under a

Perhaps you can now guess why Reliance s ed the World Cup ! In an article in the F Times business sponsorship supplement 'Tobacco companies — Anti-smokers lobb vid Churchill explains the motivation of R (UK) to sponsor the Grand Prix snooker ment. Cigarette advertising has been bann television for the past 22 years, more rece is also banned from cinemas and press adv is of course, hedged with restrictions. Spo gives them the exposure and publicity otherwise not available. As a result of i anti-smoking lobby, BBC have had to impo ter rules both against tobacco companies ing sport events as also about the promine the sponsors name during the telecast of t sored event. Rothmans, like other sponsors aware that less exposure of its name mea it is not getting full value for its sponsorsh is not good enough for the major players field, i.e., Imperial, Gallaher and Phillip Mo sides Rothmans, who count on sponsorsh means of at least maintaining their share market amidst decline in cigarette consu Overall, the tobacco companies in the UK about $15 million a year on sponsorships, two-thirds being on sports events. As a re intense public pressure, there is a move sports sponsorship by the tobacco compar the end of the decade. This may be facilita even hastened by non-tobacco companies in with sports sponsorship with a long-ter mitment. Such a move seems imperative oping countries which are now seen by the companies as their main market.

New drug policy decried

rissa unit of the National Committee for Drug Policy cautioned that the new drug dopted by the Centre will seffect the small and medium ading to a large-scale sick- closure of the industries.

sing a news conference, the State Unit Chairman, Dr. J. K. said the liberal licensing and oolicy besides liberal price poas against the recommendation lathi Committee and would ainst the very concept of achilf-reliance in drug production ountry.

beral bulk import of drugs, iates and technologies would affect the indigenous drug ons, he said adding that the s for a multinational penetra- India would also be opened new drug policy.

Nanda said the new drug poli- the New Drug Price Control DPCO) announced in August would hike the prices of the es which would be beyond the the common man.

60 per cent of the medicines market had already been under decontrolled price cate- DPCO, he said and added edicines under the price con- group had registered an inof 20 to 60 per cent.

nearly 17 per cent of the es had been found to be subd by the Centre's own chemical ories, the new drug policy had tely failed to provide the inture to ensure quality drugs, nda said.

Orissa unit of NCCDP, he said, soon launch a movement in the demanding a national, scientific people-oriented drug policy to availability of essential drugs majority of the people in the y.

HENKEL KNOWHOW FOR TPL DETERGENT UNIT

Henkel of West Germany has evinced keen interest in providing technology to Tamil Nadu Petro Products Ltd (TPL) to set up a detergent manufacturing unit. The collaboration agreement is in an advanced stage.

According to Mr. G. R. Goenka of Bharat Mercantile Corporation, the agent for TPL in eastern India, TPL would be floating a new company to take care of the detergent business. The project is estimated to cost around Rs. 30 crores. Henkel, according to Mr. Goenka, is a leading detergent and toiletries manufacturer in Europe.

If everything goes well, TPL's detergent project should start commercial production in 1990, about one third of its linear alkyl benzene (LAB) of low molecular weight would be consumed by TPL's detergent unit.

With the commissioning of TPL's LAB project two months back, the country would be saving foreign exchange of the order of Rs. 60 crores per annum. The company is now geared to provide both high and low molecular weight LAB. Before being marketed the TPL LAB which is marketed under the brandname of "Superlab" the quality test was carried by a number of leading detergent manufacturers in the country. The TPL LAB quality has matched the international standard, according to the market feedback, besides the company's own testing report.

Meanwhile, TPL has arranged adequate storage installations at Bombay, Delhi and Calcutta as part of its marketing strategy to ensure timely and quick supply to the consumers. At the project site, captive power generation facilities have been put up. The LAB plant has micro processor-based control system from Yokogawa of Japan to monitor the plant operations and project parameters.

Manufacturers of :

Reactive Yellow 15
Reactive Blue 28
Reactive Red 74
Reactive Blue 49
Direct Black 19

for export of your products

Please Contact :

Mr. DHAIRESH K. SANGHVI

M/s. Kantilal Sanghvi & Co.

Union Co-operative Insurance Bldg.,
23, Sir Pherozeshah Mehta Road, Bombay-400 001.
Phone : (Office) : 2870836/2873217/2873628/2874153
Residence : 4226850/4229086
Telex : 11 5725 EXIM IN — 11 3356 EXIM IN
Grams : EXPIM BOMBAY.

Prices of 5 bulk drugs increased

The government has revised prices of five vital bulk drugs ranging from 10 to 177 per cent under the Drug Price Control Order, 1987.

The drugs are benzathene penicillin, sulphadiazine, PAS sodium, quinine sulphate and quinidine sulphate.

This is the first batch of price revision of bulk drugs after the announcement of new DPCO last year. There are a total of 166 bulk drugs under the new DPCO, prices of which are to be revised.

According to informed sources, the price of benzalthene penicillin is raised by 29 per cent to Rs. 1639.80 per kg. The earlier price of the drug, which was fixed in 1981, was Rs. 1,271 per kg.

The price of sulphadiazine is hiked by 109 per cent at Rs. 461 a kg. from the earlier level of Rs. 219.72. The old price of this drug was also fixed in 1981.

The price increase in PAS sodium is however only 10 per cent at Rs. 129 as against its earlier price of Rs. 116.80 per kg. The price of PAS sodium was not revised since 1985.

In the case of quinine sulphate, which is manufactured only by the government quinine factories in Tamil Nadu and West Bengal, two different prices are fixed.

For the Tamil Nadu factory price increased is only 56 per cent at Rs. 1,232 a kg., whereas for the West Bengal factory price hike is 177 per cent at Rs. 2,182 a kg. The earlier price of the drug, which was fixed in 1977, was only Rs. 788 a kg.

For quinidine sulphate, which is also manufactured only by the government factories in Tamil Nadu and West Bengal, the government has notified different prices. The earlier price, which was fixed in 1981, was only Rs. 1,632 a kg.

The new price of the drug for the TN factory is Rs. 2,892 a kg showing a rise of 77 per cent. And for the West Bengal factory the price hike is as high as 149 per cent at Rs. 4,067 a kg.

Out of these five bulk drugs, PAS sodium and quinine sulphate are listed in the category I of the new DPCO and others are in category II. The government has not however revised formulations prices of these drugs on the basis of new prices.

A notable feature of price revision of these five bulk drugs is that the benefit of price hike is astonishingly attractive to the government drug units, the sources point out.

GUIDELINES FOR CAPACITY REVISED

The Industry Ministry has issued revised guidelines for fixing productive capacity of industries covered by specific notifications issued during the period ranging from 1975 to 1978.

An official release said where capacities have not been fixed so far, these will be fixed under the revised guidelines. Where capacities have already been fixed holders of registration certificates must approach the administrative ministries for re-fixation of capacities in accordance with revised guidelines.

In respect of items not reserved for small scale sector, the principle of installed capacity as on the respective dates specified would be applicable. The highest production achieved during any of the three years ending within the specified date would be used for testing the claim of installed capacity made by the applicant.

For reserved items, the highest annual production in any of the three years ending with the specified date, if accepted by the applicant, would be endorsed. If, however, the applicant claims higher installed capacity than that evidenced by the best annual production, the principle would be different.

In the case of industrial undertakings not belonging to MRTP houses and FERA companies, joint secreta the administrative ministries ed are authorised to take a fin sion and intimate the same to cretariat for industrial approval dorsement on the relevant reg certificates.

LEATHER FAIR TO OPEN ON JAN. 31

The largest international leat in India so far will be on at th ric Rajaji Hall, Madras from 31 to February 6, 1988.

The Trade Fair Authority of (TFAI) seeks to project the ex pabilities of Inda's leather indu also provide ample opportuniti updating domestic technology port of sophisticated leather ma and equipment.

The third in the series of suc the forthcoming leather fair wil an unprecedented scale occupy area of 4,200 sq. metres comp 2,800 metres last year. As m 112 participants will be dis their wares. 53 companies will b abroad.

The foreign participants inclu puted companies from Czechos FRG, France, Italy, Taiwan, th and US. Some of well known participants are the leading Italia such as Bombelli, Bruggi Fortur enzin and Aletti, Heusch from port from Czechoslovakia and Megcier Freres from France, S from UK. Italy is taking part in way by occupying an area of 1,2 metres according to a TFAI rel

In the national sector almost portant manufacturers and expor the leather industry will be rep ed at the fair. The Council for er Exports with whose close co tion the fair is being organised TFAI has ensured maximum p representation of various secto the domestic leather industry inc finished leather, garments, trav and leather chemicals.

To ensure business orientation facilitate serious business negot the first four days of the fair e clusively reserved for business v

FOR YOUR IMPORTS
AT COMPETITIVE CIF PRICES

Propylene Glycol Tech/BP/USP
Benzaldehyde
Epichlorohydrine
Pivaloyl Chloride
Pyridine Pure 2°
2-Chloro Propionic Acid
Propionic Anhydride
o-Chloro Toluene
Dimethyl Sulfoxide
Succinic Acid
L-Lysine Mono HCl
Choline Chloride
Cyclohexanone
2,6-Xylidine
Anisic Aldehyde
Hydroquinone
Acetone
Iso Propyl Alcohol
MEK/MIBK
Ethyl Acetate
Cellosolve
Dimethyl Iso Phthalate
Gallic Acid
Methyl Chloro Formate
BHA
Lactose BP/USP
Methane Sulphonic Acid

Please contact for further details :

S. AMIT & CO.

A TRUSTED NAME FOR IMPORT OF YOUR CHEMICALS
105, Neelam Centre, "A" Wing, Hind Cycle Road,
Worli, Bombay-400 025.
Phones : 4934627-28/4933310 Telex : 011-76877 CMIT IN
Cable : "DULICTOL"
Madras Office : Queens Court, 134, Montieth Road, Madras-600 008
Phone : 811172/88037

Our Associates : M/S. CHEM AMIT

Petrol price hiked

The Union government recently raised the price of motor spirit (petrol) by one rupee per litre. The increase, which is exclusive of local taxes, comes into effect from January 9. There will be no change, however, in the prices of diesel, Kerosene and domestic cooking gas.

According to an official release, the increase has been permitted in view of the steep rise in the rate of consumption of motor spirit which is expected to cross 13 per cent in 1987-88. In the previous three years it ranged between 8.7 per cent and 10.2 per cent. The increase in prices will also help conserve foreign exchange.

As per information available in New Delhi, the retail price of petrol in some of the metropolitan cities will now be as under; Delhi Rs. 8.50 paise per litre; Bombay Rs. 9.14 paise; Calcutta Rs. 8.70 paise and Madras Rs. 8.98 paise. Prior to the increase the price of petrol in these cities was: Delhi Rs. 7.43 paise; Bombay Rs. 7.99; Calcutta Rs. 7.60 and Madras Rs. 7.84.

It is learnt that the government expects to collect about Rs. 260 crores from the hike in the price of petrol. Incidentally, it is estimated that the present petrol consumption in the country is around 2.6 million tonnes.

It is interesting to note that the government had recently decided to import petrol in view of the rising consumption in the country. It is learnt that the first cargo of 15,000 tonnes arrived in the country a few days ago and cost about $ 4 million.

The increase in the prices of petrol coupled with the hike in the administered prices of coal and steel is expected to result in the mobilisation of over Rs. 1000 crores, sources estimate.

This is the third increase in two years. The first general rise in the prices of petroleum products was in March 1985 when prices of all petroleum products were raised by 15 per cent. The exception, of course, was high speed diesel oil whose price was increased by eight per cent only. Subsequently, on March 26, 1985, the prices of kerosene oil and HSD oil were reduced by seven paise per litre.

Then another increase came on February 1, 1986 the price of motor spirit (petrol) was raised by 50 paise per litre, HSD oil by 13 paise per litre, kerosene oil by 22 paise per litre, aviation turbine fuel by 5 paise per litre. Cooking gas went up by Rs. 10 per cylinder.

The government however, bowed to public pressure on February 5 1986, a week after announcing the price increase. It reduced the prices of petrol from Rs. 7.54 to Rs. 7.43 litre. Similarly, LPG price was cut from Rs. 61.79 a cylinder to Rs. 57.62, diesel oil from Rs. 3.58 a litre to Rs. 3.50 and kerosene from Rs. 2.34 a litre to Rs. 2.25. The new (reduced prices) came into force from the midnight of February 5.

In other words, the red mass consumed kerosene, d and HSD was 40 per cent a crease in the price of petro brought down by 20 per c hike of Rs. 500 per kilolit t'on fuel, announced on Ja 1986, remained untouched.

It is interesting to note t the government raised the petroleum and its products i was attributed to the firm'ng ternational prices.

However, the increase in bruary 1) was attributed to th "the oil supply and demand has to be managed in a ma would safeguard the nationa in the long run".

It was also explained th long-term framework, the rela th pattern of various comme has to be in conformity wit source endowment of the co

Dearer petrol

The pre-budget hike in the price of petrol by one rupee per litre is a straightforward measure to bolster the government's revenues, though it has been sought to be justified as a measure to deter the growth of petrol consumption. The hike will presumably pre-empt local authorities from tapping additional revenue through increased local taxes on petrol. With the stiff increase, the Central government will garner Rs. 60 crores of additional revenue during the remaining months of the current fiscal year and an estimated Rs. 260 crores in 1988-89. Additional revenue in the coming year will be even larger than estimated if this year's high growth rate of petrol consumption is sustained.

The growth rate of consumption of petrol for 1987-88 is put at a high of 13 per cent against 8.5 to 10 per cent in recent years. Especially because we are import dependent, such a high growth rate is not sustainable. Efforts must be made to curb the growth rate of not only petrol but diesel. An estimated 69 per cent of oil is consumed by the transport sector, the share of petrol being 39 and of diesel 30. Petrol is consumed largely by private transport and there is every good reason why this sector should be made to pay more.

The ostensible attempt to growth of consumption of products is confined to petro not been extended to diesel vious that the omission is In a drought year, a hike in of LDO used extensively by for irrigation would just not ble. And an increase in HS would lead to increased cha public transport. Will it be even in a good year? The that has to be squarely face ther the price mechanism c sole instrument of demand ment (so necessary from the of payments angle). Relative fuels have of course to be a such a way as to reduce de on products that are importe could be done, for example, ing availability of natural ga graded coal. Simultaneousl transport has to be improved reduce the waste involved in motoring. It is also important industry and transport fuel

In sum, while price chang as the one effected in the ca trol are justified, they are n cient for rationalising the use gy. A comprehensive packag to be evolved.

— Economi

ight get ISCA 'Young Scientist' Award

outgoing general president of ian Science Congress Associa- SCA), Prof. C. N. R. Rao pre- the ISCA young scientists to the following eight people January 12, at the concluding of the platinum jubilee session Indian Science Congress in anuary 12.

Mohammed Ashraf of the Ali- uslim University got the award area of mathamatics for his n 'Power maps and commuta- i association rings'.

S. N. Tiwari of the University khpur has bagged the physics or his work in thermotropic li- ystals.

botany award goes to Mrs. Van- iwari of Jiwaji University, Gwa r her work on 'Feeding trials od infested with aspergillus ni- bioassay experiments on albino

A. Ajay Ghosh gets the chemis- rd for his work on 'solid-phase synthesis of N-alkyl peptide amides Mr. Ajay Ghosh is from the University of Calicut.

Work on 'Brain chromatin during development' fetches Dr. B. R. Das of the Vikram University, Ujjain, the award in zoology.

The winner of the award in agricultural sciences is Mr. A. Sivasankar of the Andhra Pradesh Agricultural University, Nandyal, for his work on 'physiology of growth, development and grain yield in foxtail millet'.

A tutor at the Department of Medical Genetics of the Madras Medical College and Government General Hospital, Dr. G. Kumaramanickavel has been given the award in the area of medical sciences for his work on 'male fertility'.

In the area of humanities and social sciences, Mr. Deb Dulal Datta Roy has been awarded the young scientist award for his work on 'organisational health and its effect on quality of working life'.

The ISCA young scientist award carries a merit certificate and a cash award of Rs. 500. A further Rs. 2,500 is paid to each recipient towards supporting the research work that the person proposes to do.

The ISCA introduced the young scientist award programme in 1981. It enables young scientists to present their proposed research work during the annual session of the science congress. For excellent presentations up to 20 such awards may be given. Only members of the ISCA are eligible for consideration of the award. The upper age limit for eligibility is 30 years as on January 1 of the session year.

The recommendations for presentations are made by each sectional president (there are 13 sections in all) and a screening-cum-selection committee constituted by the executive committee of the ISCA chooses the set which will make the final presentation at the science congress and selects the awardees.

CIF OFFER FOR YOUR ACTUAL IMPORTS :

opiophenone
opionic Anhydride
ridine Pure
iconic Acid
methyl Formamide
hyl Cyano Acetate
Piperidine
2 Methyl Chloro Propionate
3 Methyl Amino Propylamine
Mono/Di/Propylene Glycol

TI & M LIMITED

GPO BOX 1308, BOMBAY-1 PH : 2870903/4,2870492 TELEX : 11-6378-2216
PO BOX 7087, NEW DELHI-2 PH : 265658 TELEX : 31-2319
PO BOX 9151, CALCUTTA-16 PH : 442595-9 TELEX : 21-7359
PO BOX 1960, MADRAS-1 PH : 514261 TELEX : 41-301

Call for excellence in science

The president of the Indian Congress, Prof. C. N. R. Rao, said in Pune on January 11 that the country needed a determined movement to attain excellence in scientific field.

Talking to newsmen, covering the science congress, Prof. Rao said mediocrity in science, to which he had referred to in his presidential address, (the report on which appeared in CW dated 12th Jan. 1987) was a difficult problem to deal with as it was a social problem in the country.

Stating that it had to be attacked on all fronts, he said the students should start demanding that their teachers attain excellence. He suggested a Ralph Nader-like movement in the country to improve the ethos in all spheres.

Prof. Rao expressed satisfaction at the government's funding policy to promote science. He cited the example of British science which was hamstrung by the government of Mrs. Margaret Thatcher who was a chemist herself.

At the same time, he decried the tendency of some senior scientists in the country to yearn for position of power in the government. He declared he would prefer remaining an active practising scientist.

Prof. Rao agreed with a suggestion made by a section of the press that the science congress should become a forum where science policy issues could be discussed. He pointed out that a beginning was made this year by inviting secretaries of some government departments to face the public and get feedback on science programmes.

Prof. Rao said he would like to see the science congress transform itself into a vibrant force that would make people scientifically aware. However, he was also aware of the limitations, even on its president himself, imposed by the rather rigid structure of the science congress. However, he was going to ensure that the changes brought about this year were continued.

He admitted that there had been organisational lapses in this year's session. But these were inevitable considering the logistic difficulties. The number of delegates had risen, although it was much less than he had thought. But it was difficult to provide facilities, particularly at prices the delegates expected.

He urged journalists to highlight the positive aspects of the current session such as the number of plenaries, where the best of scientists gave up-to-date information.

Prof. Rao was happy to note that science journalism in the country had matured. There was much greater coverage, quantitatively and qualitatively. He felt, however, that a more c and analytical assessment wa come. He wanted the reports sense to the layman than the s In this connection, he urged jo to avoid usage of scientific ja

NEW DELHI NATIONAL ADVI

Dr. Utpal K. Banerjee, Ch ecutive of the All-India Man Association, has been selected Asian Productivity Organisatio National Adviser for India on t on Technology (IT), to condu research on IT application, fu jections and IT-related e growth.

Science and villages

It would be tempting to view the 75th Indian Science Congress now in session at Pune as a jamboree or mela, reminiscent of several academic meets. Reports from Pune suggest that the sessions have been marked by a festive air. One hopes that the pomp and gaiety that market the inaugural session will be set side before the scientists get down to business. The Science Congress can ill afford to indulge in light-heartedness. It should come to grips with aspects which have a relevance to society's needs.

The Prime Minister's inaugural speech has set the tone for the confabulations to follow. As he stressed, scientists need to take science and technology to the villages, so that the basic problems afflicting the majority of Indians can be tackled. The message is appropriate, since the record of Indian science has not been very positive. Centres of scientific endeavour have been beset with problems that often stifle creativity. Bureaucracy adds to these difficulties. The role of science has never been outlined clearly for the scientific community. Enough has been said on CSIR laboratories to convince the layman that, notwithstanding the calibre of the scientists working in them, not much has been achieved. The role of university departments of science and technology in the development process has been even less significant. So the first task before the congress should be to create the conditions for a symbiosis between the laboratory and the field.

The second too was stressed by Rajiv Gandhi. Science and technology has remained the preserve of the urban elite. Even the few centres of fic excellence, for what they ar are concentrated in cities. Clea is a need for scientific knowl filter down to the people. experimentation requires skill. sense the production of kn cannot be universalised. But t tific community can play a cru in combating medieval norms behaviour that still govern the of the rural folk.

— Economi

HPCL GETS AWARD FOR PERFORMANCE

Hindustan Petroleum Co Ltd. (HPCL) has been award "excellence in performance a the oil sector by the Bureau Enterprises (BPE) for 1985-86

This is the first time that awarded such a prize to a pu tor undertaking, according to cial release issued recently.

HPCL also won in August l tional award by the Oil Indus ty Directorate for the safest in the LPG marketing installa

Bureau of Public Enterprise out an appraisal of all Centr sector enterprises in the cou compassing all activities such neering fertilisers and chemi roleum, steel and service indu

The Bureau applied 47 p covering financial results, performance in respect of pr productivity, capacity utilisat qualitative performance and s jectives.

NANCING PLASTIC UNITS

IPF wants ban withdrawn

Aloke Ghosh, president, Indian Federation (IPF), urged the al Development Bank of India to immediately withdraw its banning refinancing of plastic ng units.

DBI decision, he said, will not all the 'death knell' for the processing units and machinery ipment manufacturers but also ge the growth of the plastics as a whole. Mr. Ghosh was ng the annual general meeting IPF in Calcutta.

IDBI had last August issued a e to the primary lending insti- not to support creation of fur- pacity in the plastic processing and to seek prior approval mbay before sanctioning funds ern'sation or technology upgra-

berplexing, Mr. Ghosh said, that e Union government is actively ng the development of the industry by undertaking expan- grammes and investing crores es in setting up petrochem'cal es, the premier financial insti- the country, on the other working in the opposite direc-

ring to the various oncoming emical complexes, like IPCL's Baroda and Nagothane and the petrochem project, Mr. Ghosh was imperative to accelerate vth of new processing units to he increased ava'lability of raw s. Unless new units come up, d, not only will the raw mate- totally unutilised but the new es may become univable.

ng statistics, he sa'd industri- th in 1986-87 declined to 7.5 from 8.5 per cent in the pre- ear. Explaining that this was w the desired 10 per cent re- to achieve the targeted GNP of five per cent during the Se- lan. He said the only way to te the growth rate would be to ate on sunrise industries like

ng out that imported PVC re- 5 per cent more expensive than materials, Mr. Ghosh urged vernment to reduce the basic duty on PVC resins to Rs. 1,000 from Rs. 2,000 as well as to cut the auxiliary duty on the item. He also urged the government to revise the import duty structure on HDPE.

Mr. Jatin Chakraborty, West Bengal minister of PWD, in his inaugural address, criticised the Centre for delaying the Haldia petrochemical project. In th's context, the urged the plastics industry in the state to bear pressure on the Centre for quick clearance of the project.

Mr. B. K. Tekriwal, hony. secretary, IPF, in his address, criticised the Central order for mandatory packaging of 50 per cent of fertilisers and 70 per cent of cement in jute bags. It is essent'al for the government to take a fresh look at the order.

GOODS MOVEMENT HAMPERED

Following the dispute between the mathadi workers and the transport operators on the question of wage rise, the goods movement in and around Bombay has come to a grinding halt. The Thane-Belapur industrial belt, Wagle estate, MIDC complex, Badlapur industrial area and the whole region from Thane to Kalyan which is dependent on Bombay for arrival of raw materials and for carrying the finished goods to the city is virtually in panic.

PFAUDLER COS TO PURCHASE INTEREST IN GUJ MACHINERY

The Pfaudler Companies, Inc., of purchase an interest in Gujarat Machinery Manufacturers Ltd. (GMM), Bombay and Karamsad (Gujarat). GMM manufactures glass-lined vessels, process equipment and heat exchangers for the chem'cal processing, pharmaceutical, petrochemical and related industries operating in Ind'a and the Far East.

As a leading worldwide manufacturer of corrosion-res'stant equipment for the chemical processing and pharmaceutical industr'es, Pfaudler will share with GMM its technological achievements.

"GMM will use our technological leadersh'p to expand its market presence", said J. Richard Webb, Pfaudler chief executive officer.

FOR MOST COMPETITIVE CIF OFFERS FOR :

Cyclohexanone
3,4,5 Trimethoxy Benzaldehyde
Carnauba Wax

And Other Chemicals

Please Contact :

M/s. K. SANGHVI & Co.

308, 'Gulab', 3rd Floor, 237, P. D'Mello Road,
BOMBAY-400 001.

Phone : Office : 268970/260711 Resi. : 8128473/8226451
Grams : 'KEYSANGHVI' Telex : 11 73516 KSC IN

Outlook for plastics

The Union Government is taking steps not only to expand existing petro-chemical plants but also to set up new units in Maharashtra, West Bengal, Gujarat and certain other States. These units are expected to make available the basic raw materials required, among others, by the plastics industry. At present there are only about 20,000 plastics processing units. About 90 per cent of these units are in the small sector. Experts are of the view that another 1,20,000 units will have to be set up to meet the growing demand for plastics by taking full advantage of the expected growth of the petro-chemical sector. Unfortunately, even as the plastics industry is planning to raise its capacity, it has discovered to its dismay that the Industrial Development Bank of India (IDBI) is no longer keen to extend financial assistance to it. By discontinuing its refinance facility to the industry, IDBI has dashed the hope of plastics processors. What prompted IDBI to withdraw the refinance facility is unclear. It is possible that IDBI has taken a dim view of the industry's growth in the short run. This can be attributed to the fact that the industry is bedevilled by paucity of basic raw materials. In fairness to the Government, it must be said that it has placed imports of raw materials under OGL. If, nevertheless, the industry continues to face serious difficulties in importing raw materials, it is mainly because of high rates of the customs duty. The Government ought to appreciate that plastics raw materials are ruling firm in the international market. As the rupee is losing strength vis-a-vis major foreign currencies, importers are naturally feeling the pinch. Domestic producers of raw materials are allegedly exploiting this situation and their prices. The industry has urged the Government not only to fix specific rates of customs duty but also to ensure that there is parity between prices of imported and indigenous raw materials

While considering the industry's demand for these reliefs the Government ought to bear in mind that processors have no alternative to depending on imports as domestic producers of raw materials can meet only about half the requirement of the industry. This, coupled with the fact that the per capita consumption of plastic in this country is a meagre 0.6 kg against the global average of around 13 kg clearly underlines the need to help the industry to grow rapidly. The Government itself is keen that the industry should intensify its efforts to promote the use of plastics in agriculture, irrigation and other non-traditional sectors of the economy. The Government also expects the industry to step up exports. The trend in exports is not such as to make one optimistic about the industry reaching the Seventh Plan export target of Rs. 125 crores. The government, IDBI and the industry must act in concert to strengthen the production base for tapping the demand potential at home and abroad.

— Financial Express.

RELIEF URGED FOR WOVEN INDUSTRY

Mr. Anil B. Goradia, Presid PMA has called for relief for sack industry. In a Press note sa'd. "The Woven Sack Indu an investment of Rs. 400 cror nearly 400 units are engaged line. The Industry which sta 1969, reached a capacity of tonnes in 1972 and had reache pacity of 30,000 tonnes in 19 low'ng a strike by six months mills another 70,000 tonnes was created primarily to meet quirements of fertiliser and manufacturers. The Governmer has encouraged this industry of its inherent advantages lik proof and its efficiency even seepage percentage is far less ed to jute sacks. There is, a marked preference for wov by consumer industries like and cement. However, last ye political considerations, the ment chose to put the clock gress back by passing an o mandatory use of jute bags fo cement and fertilisers. Thus the modern'sation trend for has been upset but the Goverr reversed the progress made b ven sack industry ostensibly the jute industry. In addition vember 20, 1986, the Go brought HDPE Woven sacks by units with circular hooks f der the excise purview. The on the item is 12% advalo

(Contd. on Col.

For Your Requirements Of : (Pharma Grade)

Ethyl Oleate
EDTA and Salts
SLS
Benzyl Acetate
Isopropyl Myristate
Ethyl Palmitate
Ferric Sodium EDTA
Benzyl Benzoate
Benzyl Salicylate
Di-Methyl Amine HC

Please Contact the Manufacturers :
Mr. VIKAS SANDU
SANDU PHARMACEUTICALS & CHEMICALS
'Anand', 7th Road, Sanduwadi, Chembur, Bombay-400 071.
Phone : 528712

HDPE price hiked

ns Industries Ltd (PIL), the cer of high density polyethy- E) in the country, is raising of the commodity by about t to Rs. 26,000 per tonne, rom January 8.

ce hike, after one full year, pensate for the escalations in several inputs like ethylene ted additives by about four cent and substantial rise in bill following the new settle- ed at with the employees last

arginal price increase is far in that of this basic chemical ternational market. The last rease effected by PIL was . 1,000 per tonne on January

e the latest price hike, the in- material would be cheaper imported HDPE. The landed he imported HDPE currently to Rs. 34,000 per tonne. This e of the reduction in the im- from 160 per cent to 127 per September last.

known, prices of HDPE in in- ial markets have shot up by 00 per cent in the past few to about $ 1,200 per tonne out $ 600 per tonne in early The steep rise has been a se- the closing down of some of t plants in Europe and also the shutdown of some others in the past.

dia, the shortage of HDPE has veloped in the past few months consumption is growing at a e. Against the estimated con- n of 1,27,000 tonnes, the pro- of PIL is only about 38,000 the rest of the requirements met by imports. The domestic e of HDPE is further aggravated the last couple of months be- of the bi-annual maintenance wn of the plant.

ording to company sources, the d shut down could not be delay- such a closure is linked to the own by Nocil, which supplies e for the manufacture of HDPE. states that the current shortage PE could have been avoided if overnment had given the timely val for the expansion of the indi- us capacity. The company had sought the government's approval in 1986 for the expansion of its capacity from 50,000 tonnes to 150,000 tonnes per annum. It has not yet heard anything from the government on this proposal.

PIL is not able to increase its production to the full capacity because of the shortage of ethylene. The manufacture of HDPE based on imported ethylene is not feasible as there are no sophisticated storage facilities for such sensitive chemicals. The proposal for the expansion of the ethylene capacity by Nocil is also pending clearance from the authorities.

HDPE units crisis looming large

The woes of HDPE units have not ended. Conversely, the industry has had to grapple with new ones.

For instance, some of the units in Andhra Pradesh were greeted in the New Year with letters from APIDC calling upon them "to pay the outstandings within a week, failing which the corporation would be constrained to recall the entire amount and further proceed for taking action under section 29 of the SFC Act...".

Expressing surprise and resentment over such actions from term-lending institutions who are well aware of the vicissitudes through which the industry is passing, Mr. Ramesh Jain, President of the All-India Flat Tape Manufacturers Association (AIFTMA) urged the Industrial Development Bank of India (IDBI) to advise the IDCs to take a lenient view of the situation and grant postponement of the repayment of term loans.

Although the Union Government has so far not relaxed the jute bags mandatory order, he stated that he is still hopeful that the Government would see reason soon. In addition to domestic market troubles which has brought down the capacity utilisation in the woven sack units to as low as 25 per cent, the problem of hike in raw material price of HDPE coupled with its scarcity is debilitating the industry.

Some industrial units like Paharpur Plastics, Kanpur Plastipack, Kamath Packaging, Sumitra Plastics, Auroplast, Polyweave, etc have received export orders during the last few weeks but are faced with severe raw material problems, Mr. Jain said.

The association president pointed out that the price of HDPE (imported) ruling at $ 900 suddenly jumped to $ 1350 per tonne. Since the imported material had a customs duty of 127 per cent, the principal raw material price to industry has correspondingly gone up.

Mr. Jain sought immediate relief in customs duty not only to boost exports but also to serve the domestic market. An estimated 70,000 tonnes of HDPE is currently being imported per annum.

Mr. Jain regretted that the HDPE woven sacks are not given a corresponding increase in the price by the user industries consequent to the hike in the imported price. Only 15,000 tonnes of indigenous raw material is available at present for consumption by the woven sack units.

Referring to the expanding scope for exports of woven sacks despite stiff competition from China, South Korea and Japan, Mr. Jain stated that the Government should offer cash compensatory support of 20 per cent and also arrange refund of duty paid on tapes.

In fact, the few units that recently ventured into exports are faced with reduced domestic offtake in the face of the mandatory order and are struggling to maintain minimum capacity-running of their units, at around 15 to 20 per cent.

(Contd. from p. 48)

is a further blow to the woven sack units as they are not eligible for Modvat benefit and they do not also enjoy small scale exemption. For relieving the present plight of the industry, it is imperative that the excise levy should be abolished. The excise duty on coating of HDPE woven fabric for Tarpaulins and tents also has affected this sector. Hence this duty on coating should also be abolished. Further the Government should review the whole position of the mandatory restrictions on the use of woven sacks and thus allow the modernisation process to flourish in the packaging industry. Any help that should be given to the jute industry should be by way of facilitating its modernisation and not by throttling another sector which is trying to update its technology in line with the Government's own proclaimed objectives.

Environment courts needed

Recently, the pollution laws were amended to make them more stringent. The law-makers have not however taken into consideration the suggestions of the Supreme Court which has recently been taking up several cases relating to water and air pollution. If the draftsmen on the parliamentarians had gone through the Supreme Court judgements in the cases referring to pollution, they would have seen that the most urgent need of the times was the establishment of environment courts.

The Supreme Court, which had taken the lead in handling public interest litigation referring to pollution, had from its experience found that they involved detailed questions of science which the courts are not readily able to handle. In M. C. Mehta vs Union of India, referring to the gas leak in the Shriram Fertilisers, the constitution bench sought the assistance of several scientists and environmentalists to ascertain whether the alleged damage was caused and how.

Most of the cases relating to pollution should be raised first in the subordinate courts in the ordinary course. This is what the two Acts dealing separately with air and water pollution injuncts. The appeals go to the high courts or the Supreme Court unless the writ jurisdiction of these appellate courts are invoked in the first place through public interest litigation.

The subordinate courts are already overcrowded and the magistrates are not well-equipped to handle cases dealings with questions of modern science. Therefore, the Supreme Court had suggested the establishment of an ecological sciences research group. Such research groups, consisting of scientists from different fields, would assist the environment courts when they are set up.

Accordng to the Supreme Court, environment courts should have one professional judge and two experts drawn from the research group, keeping in view the nature of the case and the expertise required for the adjudication. The appeal against such specialised courts would go to the Supreme Court.

The absence of such cou debilitating influence of lac tific expertise at the level nate courts has become cle ral of the cases dealt with courts. Even the high courts times helpless to decide qu cause and effect of the dam by industries and sewage vironment.

A recent judgement of t Pradesh High Court is a cas The law applied was the Criminal Procedure Code and the judge of the High clared that there was no evidence to show that there ge to the public from the o the lime kilns in the Katni a

The original case was file tu by the sub-divisional who received a number of from the people living aroun when he went for a walk. H tion under Section 133 (on sance) of the Cr P. C. and ered the kilns to be closed

When the kiln owners we peal to the sessions judge, the order perfectly all righ the appeal was considered b Court, however, it reverse ings of the subordinate cou lowed the kilns to operate.

The Court could have c the assistance of scientist cover the damage, as the Court had done in several the brick kilns around Delhi mage due to the oleum gas the Shriram Fertilisers. Court merely stated in the that there was no evidenc that there was any urgenc was any damage.

The judge went further that the magistrate who sta prosecution had "convenient ed" the truth that the pe adapted themselves to the around them. It is rather st the High Court should have remarks when the people had complained to the about the insufferable conditi ed by the kilns.

In the Supreme Court, Pradesh Pollution Control B plained recently that civic b industries had not installed treatment plants despite ord the subordinate courts.

NOW AVAILABLE FROM MANUFACTURERS :

Hydrofluoric Acid

40%, 50%, & 60% - Bulk

ALSO AVAILABLE EX. STOCKS

1. AMMONIUM BIFLUORIDE
2. AMMONIUM FLUORIDE
3. CALCIUM FLUORIDE
4. MAGNESIUM FLUORIDE
5. POTASSIUM FLUORIDE
6. POTASSIUM BIFLUORIDE
7. POTASSIUM TITANIUM FLUORIDE
8. POTASSIUM SILICO FLUORIDE
9. SODIUM FLUORIDE (EXTRA PURE GRADE)
10. SODIUM BIFLUORIDE
11. LITHIUM FLUORIDE
12. FLUOBORIC ACID
13. COPPER FLUOBORATE
14. LEAD FLUOBORATE
15. TIN FLUOBORATE
16. POTASSIUM FLUOBORATE
17. SODIUM FLUOBORATE
18. NICKEL FLUOBORATE
19. LITHIUM CHLORIDE

Please Contact :

MADRAS FLUORINE PRIVATE LTD.

83, Kamaraj Avenue, Adyar, Madras-600 020.

Phones : 413829/410188 Factory : 551277

Grams : 'MAFLUORIDE'

prosecutions have been
der the Water (Prevention
l of Pollution) Act, most
stuck in the courts on tech-
The magistrates who try
not equipped with the re-
hnical knowledge, while the
are assisted by the best sci-
d top lawyers to stall the

ance, a judge would be con-
the terms 'primary' treat-
and 'secondary' treatment
ny industries get way on
hat they have installed the
ant, which they claim is the
p. Primary plants, however,
to experts, are only a seive
hich do not cure the effluen-
oxic contents.
of these handicaps, the
ns launched against erring
and civil bodies drag on for
out any result. The damage
often irretrievable. For ins-
e Ganga and its tributaries
ed from Hardwar to Calcut-
oxic substances from distille-
eries and sewage spilled in-
The agriculture land along
rs is slowly becoming infer-
poisonous. If this goes on
r, innumerable hazards will
owly but inevitably. It is in
xt that the suggestions of
me Court be given the utmo-
tance, at least in this late

KPANSION PLAN TO BE

aharashtra Pollution Control
PCB) has appointed a seven-
committee of experts to study
the expansion proposals of
ical companies in the Thane-
elt.
mmittee, headed by Dr. R.
will study the expansion pro-
the National Organic Chemi-
tries Limited (NOCIL) and
Chemicals, a press release
MPCB said.
embers of the committee are
3. Chandalia, Dr. P. M. Mo-
P. K. Ghosh, Mr. P. K. Ban-
y, Mr. V. N. Kholkute and
. Gupta.
even-point terms of reference
studying the effect of expan-
human settlement, human
cology and environment besid-
ining adequacy of the proposals
r and air pollution control.

The committee will also examine the proposals in terms of disaster management planning and safety measures, the proposals of transport of raw materials and finished products and the toxicity and hazardous nature of the raw materials and finished products, the release added.

The Rs. 1300-crore expansion plan of the NOCIL, has met with a stiff resistance from the citizens and a group "Thane parisar paryavaran and manvi jeevan saurakshan samiti."

HIND. LEVER SHOW AT SCIENCE CONGRESS

Hindustan Lever has put up an impressive and educative presentation on its research activities at the current Pune science congress exhibition.

The focus of the company's presentation is the higher levels of productivity being realised through application of science and technological innovations.

Its scientists have expanded the base of raw material supply considerably in the sphere of unconventional oils for soap making.

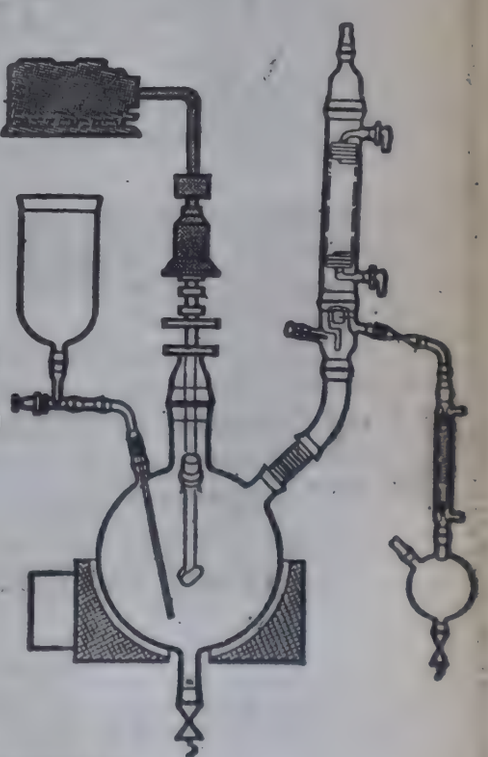
Potato was one of the items at the exhibition. It successfully presented miniaturisation of the potato seed, which is a big credit for India, perhaps among the one or two pioneering countries in achieving such a feat. The scientists say that with 50 kg of this revolutionary virus-free seed, called potato micro tuber, the farmer can plant a full hectare, against the normal two tonne requirement, a tremendous saving in a food-short economy.

Another breakthrough of the company's researchers in agriculture is the creation of elite high productivity plants through tissue culture.

One fine example on show at the exhibition is cardamom, a spice item valuable for export. These plants have the potential to raise production of the cardamom crop unfailingly as they are true copies of their parent, developed and multiplied through tissue culture after painstaking experimentation and nursery trials.

Another area that promises export potential is aqua-culture of prawns. The company's biologists have established that round the year production of prawn fry of high quality is now possible.

Q.V.F. TYPE GLASS ASSEMBLIES



We manufacture
-Reflux Reaction Distillation assemblies upto 200 Litre
-Overhead condenser/distillation assembly on glasslined reactor
-Heat Exchangers, Cascade coolers and Shell & tube condensers
-Pipeline components upto 12" Dia

Latest from us
-HCL Purification unit
-HCL generation tower
-HCL absorption tower
-Repairing of broken flasks upto 200 litre
-100 & 200 Litre flasks Ex-stock

ABLAZE PROCESS SYSTEMS
E/52, SARDAR ESTATE, AJWA ROAD, BARODA-390 019.
PHONE: 540941. GRAM: ABLAZESS, TELEX: 0175-338 BPC IN
The most advance name in process glass technique

For Competitive CIF price for following Chemicals :

1. 1;4 DIOXANE — Taiwan
2. EPICHLOROHYDRINE — Japan
3. POLYVINYL ALCOHOL — Japan (Hot & Cold)
4. LITHIUM HYDROXIDE — German
5. LITHIUM CHLORIDE — German
6. ALLYL CHLORIDE — Japan
7. POTASSIUM CARBONATE — Japan
8. 3,4,5 TRIMETHOXY BENZALDEH
9. GALLIC ACID — Japan
10. ALLYL ALCOHOL — Japan
11. HYDROXYLAMINE SULPHATE —
12. PYRIDINE — Japan/USA
13. SODIUM HYDROSULPHITE — T
14. BETA PICOLINE — Belgium/US

Please Contact :

RAJENDRA INTERNATIONAL

Mehsana Mansion No. 2, Block 3,
Tejpal Road, Vile Parle (East), BOMBAY-400 057.
Telephone : 6140800

Sodium Sulphite

(PHOTOGRAPHIC GRADE)

Ferric Chloride

(ANHYDROUS POWDER & LUMPS)

Bulk Consumers/Exporters/Dealers

Please send us your enquiries with details of specification required and approximate monthly requirements to :

Box No. 2183
C/o. CHEMICAL WEEKLY
306, Shri Hanuman Industrial Estate,
G. D. Ambekar Road, Wadala, Bombay-400 031.

WE SUPPLY

Methanol (R.C.F)

Along with

SODIUM NITRATE (RCF)
SODIUM NITRITE (RCF)
DI-METHYL AMINE (RCF)
MONO METHYL AMINE (RCF)
PTHALIC ANHYDRIDE
TRI CHLORO ETHANE (Std. Alkali)
CAUSTIC POTASH FLAKES (Std. Alkali)
CAUSTIC SODA FLAKES (Rayon Grade)
POTASSIUM CARBONATE (Std. Alkali)
BETA BLUE

Contact For Your Regular Requirements :

INTERSEAS TRADING CO.

1, "Shalimar",
Krishna Society, Ellisbridge,
AHMEDABAD-380 006.
Phone : 445605/445038

urplus and scarcity pockets in alcohol

ol-based chemical industry is r the recent government deci- llow export of 700 lakh litres rial alcohol from two surplus amely, Uttar Pradesh and Ma-

alcohol scarcity continues in the other states, the govern- cision to allow the export of c raw material is unwise, in- ources in Bombay say. The industry has been expecting change in the availability of n the country when the new policy was announced some go.

continuing non-availability of n deficit states like Andhra Karnataka, West Bengal, nd Tamil Nadu has forced a of chemical units to either wn or work below 50 per cent n capacity. The chemical units states are unable to buy al- m the surplus states because tiplicity of levies and taxes higher prices of alcohol. Both d Maharashtra have an export of Rs. 1.25 a litre of alcohol if sold to other states for the chemical industry.

Industry sources are of the view that this high rate of export pass fee and other levies make it virtually impossible for the chemical units in other states to buy alcohol from U.P. and Maharashtra.

It is felt that there could be a shortfall in production of alcohol even in the surplus states in the current sugar season with an expected drop in the cane output because of the drought conditions. The government should, therefore, preserve the surplus alcohol in the country itself instead of allowing the distilleries to export it. The distilleries are stated to have enough capacity to store alcohol, sources point out.

Besides, the distilleries are unlikely to get an attractive price for the commodity in the international market. The government expectation is that the export of alcohol would fetch a price of $300 a kilo litre. However, the current international market trend indicates that Indian alcohol would not even fetch $ 220 a kilo litre. This would mean that the actual price realisation from exports could be even lower than local prices in the surplus states.

The sources feel that there should be a uniform and clear-cut policy with regard to industrial alcohol — a vital raw material for organic chemical industry. Yet the Centre has not been serious enough to frame a national policy for alcohol.

The price of alcohol varies from state to state at present as there is no control or monitoring of the BICP fixed price. The prices are actually refixed by the state governments on various considerations; the state levies vary from state to state.

With the introduction of an export pass fee by two surplus states in recent years, the situation has been further complicated. It has created pockets of surplus and scarcity in different parts of the country. The alcohol-based chemical industry has been suggesting off and on that if the state governments cannot be convinced and bring an end to the export pass fee and differential rates of levies on this vital raw material, the Centre should intervene in the matter.

AVAILABLE

FOOD/PHARMA GRADE

SOYA LECITHIN

Actual Users Please Write to :

BOX NO 2182

C/o. CHEMICAL WEEKLY

306, Shri Hanuman Indl. Estate, G. D. Ambekar Road,

Wadala, BOMBAY-400 031.

It is being suggested that the Centre should remove industrial alcohol from the purview of state list and put it under the exclusive jurisdiction of the centre. This would bring some kind of uniformity in alcohol prices in the country. Alternatively, the centre should allow duty-free import of alcohol for the chemical industry whenever there is a shortage of the commodity in any part of the country.

The chemical industry is however, more in favour of the first option as molasses and alcohol are considered to be key national resources and streamlining of their distribution could could save precious foreign exchange.

The Sub-committee on alcohol and alcohol-based chemical industry, appointed by the Development Council for Chemical Industry, has made some observations in this context. The committee has suggested that to meet the growing requirements of alcohol both from alcohol-based industries and the potable sector, the entire molasses must be made available to distilleries for conversion into alcohol. The committee further suggested that there should be a ban on the export of this raw material from the country.

And to take care of the temporary surplus of molasses it should be ensured that the sugar industry build on adequate storage capacity. The subcommittee also felt it was essential to maintain the cost effectiveness of alcohol as an industrial feedstock and it may be affected seriously if an attempt is made to decontrol molasses or to substantially increase its price.

Industrial alcohol

The alcohol-based chemical industry is understandably concerned over the Union Government's decision to allow the All-India Distillers' (AIDA) to export 500 lakh litres of industrial alcohol. There is no denying that domestic users of industrial alcohol are unable to improve their capacity utilisation because of inadequate supply of industrial alcohol and its high cost. If, nevertheless, the Government has been constrained to authorise AIDA to export industrial alcohol, it is only because many distilleries in surplus States such as Uttar Pradesh and Maharashtra are burdened with huge unsold stocks. As distilleries have more or less exhausted their capacity to store unlifted stocks, they cannot continue their operations unless they are helped to dispose of the surplus. In the circumstances, there is no reason to cavil at the Union Government for its decision to allow AIDA to export industrial alcohol. Both surplus and deficit States must share the blame for making it difficult for the chemical industry to utilise fully the available material. Even while doubling the excise duty on molasses, the Union Government protected users of industrial alcohol by giving them full rebate on excise duty. Instead of emulating the example of the Union Government several State Governments have imposed all kinds of levies on users of industrial alcohol. Uttar Pradesh and Maharashtra have the dubious distinction of treating industrial alcohol as a milch cow of taxation. The situation has reached such a pass that, although Uttar Pradesh and Maharashtra are surplus States many users there are planning to shift their units to Gujarat and Tamil Nadu where State levies are less burdensome. But even in latter States there could be a change for the worse. It should not, therefore, cause any surprise if alcohol-based units themselves change their basic feedstock. A synthetic rubber unit in Uttar Pradesh has already switched over from industrial alcohol to imported butadiene primarily because the State Government was unable to ensure an adequate supply of the basic feedstock at reasonable prices.

Although the Union Government is keen to promote the use of industrial alcohol as a basic raw material for a number of chemicals and related products, State Governments have been found wanting in the discharge of their responsibilities in this matter. Expert committees set up by the Union Government have strongly recommended rationalisation of State levies. Unfortunately, State Governments have refused to act on such recommendations. The result is that petroleum-based chemicals produced by giant units abroad are cheaper than alcohol-based chemicals produced within the country. Large-scale imports of acetic acid, acetic anhydride and other chemicals by actual users or holders of ment licences have inevitably estic producers. The Union Governments can avoid these ments only by enabling alcohol chemical units to improve the city utilisation.

— Financial

MATERIALS PROCESSING MAKES STRIDES

Defence Metallurgical resea ratory director P. Rama Rao cently that materials processi reaching new frontiers with like super plasticity.

The concept, discovered b of American scientists a fe ago, is based on the princip bent Damascus sword.

Super plasticity has great in building of missiles, while delivering a lecture o cond day of the Indian Nat ence Congress in Pune.

Dr. Rao said the importan terials processing technolog the intricate task of convert als into components and dev cited the examples of idol m ancient times, iron pillars ma 16th century and manufactu craft brake pads in this con

Dr. Rao said that metals v a critical role in space tra as scientists try to put more payloads into space at min The payload requirement wa ed at a million tonnes year foreseeable future, he said.

Dr. Rao pointed out that signs tended to be empirica mical or physical property ap The new frontiers were aton ling, continuum modelling, reaction kinetics — all of abled the metallurgist to the response of different m modern methods like electro X-ray lithography.

He said that polymer scie already looking to biology as beginning to mimic nature, kes large scale structures lik wood tree using cellular so redwood tree could be con structure to a 30-storey bui metallurgist could make this structure artificially and t was being incorporated in designing.

ANNOUNCING

DYESTUFFS DIRECTORY

SECOND EDITION

Covering : DYESTUFFS
DYE INTERMEDIATES
TEXTILE AUXILIARIES
MACHINERY & EQUIPMENTS

- Plans are afoot to bring out the second revised and enlarged edition of the DYESTUFFS DIRECTORY.
- The voluminous Directory will focus attention on the status of the Dyestuffs and allied industries with up-to-date statistics.
- The Dyestuffs Directory will list out all the manufacturers, dealers, distributors, exporters of dyestuffs, dye intermediates, textile auxiliaries and chemicals with productwise classification. An exhaustive list of indentors will be an added feature.
- A special section on Machinery & Equipments for the industry is also being planned

For details Please contact the publishers :

SEVAK PUBLICATIONS

306, Shri Hanuman Indl. Estate, G. D. Ambekar Road,

P.O. Box No. 7110, Wadala, Bombay-400 031.

Phones : 4131198/4120743 Telex : 011-76053 CWLY IN

Madras Office : 27, Begum Sahib 3rd Street, Mount Road, Madras-600 002

Phone : C/o. 87808 Telex : 041-6290 CWLY IN

Fertilizer units fail to buck up

The overall performance of public sector fertiliser units continued to be far from satisfactory in 1986-87, reports Surinder Sud in **The Times of India.**

Though there was a marginal decline in the accumulated losses, the profit-making concerns generally failed to push up the combined profit figure, which remained stagnant at the previous year's level of about Rs. 80 crores. The total losses incurred by this sector as a whole came to about Rs. 190 crores, compared to Rs. 200 crores in 1985-86.

While the Fertiliser Corporation of India (FCI) and Hindustan Fertiliser Corporation Ltd, (HFCL) continued to be in the red, Projects and Development India Ltd. (PDIL) joined their ranks as a loss-showing concern though it had made a small "operational profit."

Significantly, two of the five profit-making organisations registered a sharp decline in their profits in 1986-87. These included National Fertilisers Ltd. (NFL) and the Rashtriya Chemicals and Fertilisers Ltd. (RCF).

A redeeming feature of the state sector fertiliser industry, however, was the turning of the corner by Madras Fertilisers Ltd. (MFL) and commendable results shown by the Fertiliser and Chemicals Travancore Ltd. (FACT) and Pyrites, Phosphates and Chemicals Ltd. (PPCL).

Indeed, the year 1986-87 and the subsequent months have not been a good period for the fertiliser industry as a whole. Despite an overall improvement in capacity utilisation, duly reflected in increased output, the industry was bogged down with unprecedented accumulation of inventories and the failure of demand to pick up to the desired level. The output of chemical nutrients at a time of wide-spread drought led to cut-throat competition between the producers to sell their stocks, offering handsome rebates and discounts to consumers.

Of the total loss of Rs. 190 crores incurred by the public sector units in 1986-87, the major chunk of Rs. 102.53 crores was accounted for by the FGI, the bulk of the rest being held against the name of HFCL (Rs. 86.22 crores). PDIL's loss had been put at Rs. 39.18 lakhs which, albeit meagre, is significant as the company had shown a profit of Rs. 51.93 lakhs in the previous year.

Among the five profit-making concerns, the FACT headed the list with Rs. 36.45 crores, following by RCF with Rs. 20.11 crores, NFL Rs. 16.51 crores, MFL Rs. 6.64 crores and PPCL with Rs. 85 lakhs. Notably, MFL had incurred a loss of Rs. 7.6 crores in 1985-86. Profits of NFL and RCF had declined in 1986-87 from the previous year's level of Rs. 36.44 crores and Rs. 32.23 crores, respectively. For FACT, it was a lucrative performance for the fourth consecutive year.

The FCI's losses, notwithstanding an improvement in the production performance in all its four operating are attributed chiefly to e breakdown, power problems a factors. In all, Sindri lost 109 days, Gorakhpur 107 days, R dam 166 days and Talcher 2 during the year. This resulted loss of about 400,000 tonnes gen output. The production Ramagundam unit could have but for inherent design defici

HFCL's losses went up by 14.66 crores in 1986-87 ov previous year chiefly due to a nitrogen production. Besides crease in interest charges and rebates and discounts in the ing operations. The loss of cu significant in its Durgapur unit d'a project, which was mec completed way back in 1979, ed to lie idle. The namrup-III had teething troubles in some partments. It was able to start cial production only in Octob

FACT, which maintained its of increasing profits for the fo cessive year, could have don but for adverse market and conditions. Its profit of Rs. 3 res in 1986-87 was significar er than the Rs. 11.23 crore previous year. The company ed an increase of 72 per cent gen production and 18 per phosphate output. FACT's en and design organisation also ed considerable improvement performance. The order pos this division is said to be co till 1990.

For Your Requirements of :

METHYL VIOLET

(Crystals & Powder)

METHYL VIOLET BASI

Please Contact Manufacturers :

SHIVA CHEMICAL INDUSTRIES

416, Maker Bhavan No. 3, New Marine Lines, Bombay-400 020.

Tel. : 299366

eld the unprecendented ferti- solely responsible for the n its profits in 1986-87. It had heavy inventory carrying costs giving substantial discounts on of material. The company, paid a dividend of Rs. 11.03 t the rate of two per cent of up capital.

ding to NFL, the decline in its 1986-87 was due mainly to re- f consumption norms in the its Bhatinda and Panipat plants k of compensation for escala- the prices of inputs and utili- e production performance of pany was indeed better com- the previous year. Capacity on went up from 75 per cent to cent. Its projects under cons- . Including the Vijaipur unit sed according to the stipulated hedule and within the appro- t estimates.

e case of PPCL, almost the en- fit of Rs. 84.87 lakhs in 1986- ted to its Mussoorie phosphorite which attained a recorded out- 1.2 million.

FERTILISER PLANTS E NORTH MOOTED

udy group on new fertiliser has suggested drawing up a r establishing four or five 1350- per day ammonia plants with ng urea capacity in the north- gion to meat the pronounced ni- deficit in this part of the coun-

study group, headed by Dr. S. rajan, Chief Consultant of the g Commission, has concluded n the basis of the projected de- and production by the end of ghth Plan, the deficit of nitrogen be 5,100,000 to 5,200,000 ton- fter taking into consideration the g operating fertiliser plants and ts already in hand.

e group was set up by the De- ent of Fertilisers to suggest the er, size, location and feedstock w fertiliser plants.

e projected demand of nitrogen, ding to the study group, would 100,000 to 9,300,000 tonnes at the end of the Seventh Plan (1989-90), and 12,900,000 tonnes by the end of the Eighth Plan (1994-95).

The installed capacity by 1989-90 would be 8,450,000 tonnes and the est mated production 6,367,000 tonnes. At the end of the Eighth Plan, the installed capacity would increase to 9,660,000 tonnes and the estimated production would be 7,769,000 tonnes.

In its report, the study group has said the region-wise demand-supply balance indicated surplus in the west zone and deficit in the east, south and north zones, the highest deficit being in the north.

The deficit in the east and south zones could be met by imports, while the deficit in the north zone could be met not only by imports but also surplus available from the west zone and installation of new plants.

The group has recommended that the future deficit of phosphatic fertilisers should be met entirely through imports and that there was no need to set up further additional capacity in any form.

Considering the assessment made by the Minerals and Metals Trading Corporation (MMTC) on the availability of urea and DAP in the international market in the 90s, the cost of indigenous and imported fertilisers, and the availability of feedstock, the group has concluded that the future deficit of nitrogen should be made good through a mix of "make" and "buy" option in view of the cheaper cost of imports.

On feedstock, the group has emphasised that natural gas should remain the preferred feedstock for nitrogenous fertilisers. If no gas becomes available in future, the new plants might have to be based on liquid condensate fractions from gas or imported naphtha.

In its report the group has emphasised that the mis-match between ammonia and urea capacity should be avoided in all future plants.

Regarding infrastructural facilities to improve movement of fertilisers, the group has suggested augmentation of mechanised handling capacity at major ports and extension of rail transport to carry 12 million tonnes of traffic.

The group has also favoured captive power units as an integral part of all future nitrogenous fertiliser plants, uninterrupted water supply through selection of suitable sites and installation of adequate devices to avoid pollution and other hazards.

The report has emphasised the need for concerted efforts to popularise and promote the use of fertilisers in both high potential and dry-land areas. It has also recommended setting specific targets for fertiliser manufacturers for promotion of nutrient use.

VIJAIPUR FERT. PLANT BEGINS PRODUCTION

The gas-based Vijaipur fertiliser plant of National Fertilisers Ltd. has commenced production of ammonia and urea.

In spite of the inordinate delays in the supply of certain equipment, it has been possible to start production within the scheduled time frame.

To begin with the production is in the nature of a trial run, as all equipments and systems get fine-tuned.

Construction of the Rs. 587-crore plant, which was completed within its estimated cost frame, began three years ago in the "no industry area" of Guna district in Madhya Pradesh.

The plant has a capacity to produce 7.26 lakh tonnes of urea annually, equivalent to 3.4 lakh tonnes of nitrogen.

Fertiliser produced from this unit is expected to augment grains production by 3.4 million tonnes annually as well as to conserve foreign exchange on account of the curtailment of imports.

The fertiliser plant is equipped with adequate anti-pollution devices to ensure the discharge of clean air and water. It additionally possesses a captive power plant run on gas using microprocessor instrumentation and control systems capable of directing generation from nil to full load and vice versa.

The plant itself has come up on a barren stretch of land, now transformed into a large industrial complex but employing directly only 900 persons.

An afforestation programme being undertaken by National Fertilisers has seen the plantation of 50,000 trees in the first phase.

The company has also adopted eight villages, including the historic Vijaipur village, for overall development.

IPCL may raise Rs. 100 crore more

State-owned Indian Petrochelicals Corporation Ltd. (IPCL) may soon be allowed to mobilise an additional Rs. 100 crores from the capital market. This will be in addition to over Rs. 300 crores already mobilised by IPCL in the last couple of years through various instruments.

A proposal made to this effect by the IPCL management is now under the examination of the Government. The additional market borrowing is needed as IPCL's funds requirement went up following an increase in the customs duty on imports of capital goods from 55 per cent to 85 per cent and the rise in corporate taxation last year.

According to Dr. S. Ganguly, Chairman and Managing Director of IPCL, the company had mobilised over Rs. 300 crores during 1986-87 and the first few months of 1987-88 through instruments like bonds and private placements. In 1986-87, it got over Rs. 96 crores from its 14 per cent interest bearing bonds and another Rs. 60 crores from 15 per cent interest bearing debentures on private placement with Life Insurance Corporation of India (LIC), Unit Trust of India (UTI) and the Army Group Insurance Directorate.

During 1987-88, IPCL has mobilised Rs. 60 crores through private placement with LIC and UTI, Rs. 60 crores through non-convertible bonds on private placement with General Insurance Corporation and Rs. 65 crores through nine per cent interest bearing bonds in several tranches from the SBI Capital Market Services.

Dr. Gangily told newsmen recently that the proposal for raising the capacity of the Maharashtra gas cracker complex, now being implemented on schedule, from three lakh tonnes to four lakh tonnes was before the Government. The permission to expand the capacity was dependent on firming up the supplies of feedstock for the expanded gas cracker complex.

The IPCL chief said the Maharashtra gas cracker complex would be implemented in phases. IPCL's total output of major products during April-December 1987 was estimated at 238,000 tonnes against 231,500 tonnes in the same period of the previous year. This performance was 96 per cent of the action plan target of 247,500 tonnes production.

The production of some major products during this period was as follows with capacity utilisation figures in brackets: Diethyl terephthalate (94 per cent), LDPE (98 per cent), acrylonitrite (98 per cent), acrylic fibre (99 per cent), benzene (116 per cent) and ethylene oxide/glycol (96 per cent). The overall capacity utilisation was 90 per cent.

IPCL would earn a net profit after depreciation of Rs. 38.68 crores on net sales of Rs. 315.43 crores for April-September 1987 compared to Rs. 31.43 crores of net profit and Rs. 280.52 crores of net profit for the same period of 1986.

According to Dr. Ganguly, the supply position of all items was satisfactory and the shortage of polyvinyl chloride was tackled through imports and from January 1988 onwards 4,000 tonnes of PVC resins would be made available each month to meet the requirements arising out of drought relief work.

While the 25,000 tonnes polypylene co-polymer project at Nagothane had just been commissioned, the expenditure incurred till December 1987 on the Rs. 1,167-crore Maharashtra gas cracker project was estimated at Rs. 838 crores. IPCL had also budgeted to invest Rs. 55 crores in various research and development projects during the Seventh Plan.

Some of these R and D projects already completed, pertained to the scale up of a Rs. 4.3 crore polyolefin catalyst plant, development of an indigenous cracking technology through a project costing Rs. 8.53 crores, taking up a catalyst plant to develop new catalysts and setting up a carbon black plant at a cost of Rs. 12 crores.

Attention ! Indentors/Exporters

BASIC AUROAMINE 'O' & 'OF'

U. CONC. — 178% OS CONC. — 100%
O. CONC. — 160% OSS CONC. — 80%
CY CONC. — 135% 'OF' SPIRIT SOLUBLE

Manufactured By :

MAHENDRA DYES & CHEMICALS

Plot No. 6828, GIDC, Ankleshwar, Dist. Bharuch.

WHITENING AGENT

2B, BVN, 4BM, PC, WHN, NYR

&

POLYESTER WHITENER ERN

Manufactured By :

Star White HCEE

HARISH CHEMICAL ENGINEERING ENTERPRISE

Factory : 3909, CIB Type Shed, GIDC, Ankleshwar, Dist. Bharuch. Phone :

Office: 12/2679, Dr. Kavina Street, Sayed Pura, Surat. Phone : 36514

C plan to step up crude output by 4 M.T.

l and Natural Gas Commis-GC) plans to increase its cru- by four million tonnes over two years through a mix of long-term strategies.

sources said that efforts were de to enhance production existing fields, while newly d fields are put into produc- ugh unconventional techniques duction of technologies like completion and horizontal

been estimated that one per ease in recovery from the ex- servoirs can give an additional lion tonnes of recoverable re-

en 1980 and 1981, ONGC has its workover index from 4.98 than nine, they said. During e period, the number of pro- vells has gone up from 1700 than 3000, they said.

ources said ONGC has made veries of oil and gas since nning of the Sixth Plan, of have been put on production, and and one offshore.

arly Production System (EPS) ed by ONGC, will accelerate ess of early assessment of potential, upgradation of re- nd exploitation of new disco- hey said.

es generating additional reve- ough crude production, this of extended production test- ugh EPS will also reduce the n period for field development. st 61 rigs in 1980-81 ONGC eploys 108, of which 86 are and 22 offshore. The rig co- he Cauvery Basin has doubled e to ten and in the Krishna- i Basin from five to 12.

Gandhar field, described as one most promising discoveries in imes, and the Godavari offshore ere a find was made recently flow rate of 2,500 barrels a both being taken up for crash ment programmes, the sources

now, ONGC has drilled 615 off- exploratory and development n the east and west coasts. ding Bombay High, oil and gas een found in 31 offshore struc- nce April 1980.

In onland areas, ONGC has made 33 new discoveries since 1980 and production has risen from 3.6 million tonnes in 1970-71 to 7.23 million tonnes last year, the sources said.

For the long term, ONGC has drawn up a 20-year conceptual plan till the year 2004-5 and ten year operating plan covering the Sixth and Seventh Five-Year Plan periods.

Besides Gandhar, which could have an ultimate production potential of about five million tonnes per annum, the Cauvery Basin is also emerging as a promising area with the improved prospects of Narimanam and Kovilkalappal, both of which have also been put on the EPS.

These two prospects have so far contributed 80,000 barrels of oil to the Madras Refineries, the sources said.

ONGC has set a target of 0.3 million tonnes per annum from this basin over the next two years.

In Upper Assam, Changaigaon, Borholla-Champana, Namti and Demalgaon are the fields put on EPS.

The four million-tonne increase in crude production, envisaged over the next two years through these strategies, will represent a 60-per cent growth compared to the Sixth Plan, they said.

L & T TO INSTAL EFFLUENT TREATMENT PLANT

Larsen & Toubro Ltd. will instal a Rs. 8-crore effluent ereatment system to treat the various toxic waste streams in the refinery of Bharat Petroleum Corporation at Mahul in Bombay.

Under this programme the scope of work includes process technology, basic and detailed engineering, manufacture, supply, erection and performance testing of the complete system along with associated mechanical and civil works.

The technology offered in this instance is from Zimpro Inc. the US with whom L & T has a collaboration agreement. Its uniqueness lies in the combination of bio-physical and physio-chemical steps.

For Your Regular Requirements of:

Petroleum Ethers
40-60°, 60-80°, 60-95°, 80-100°, 100-120°

n-Hexane 65-70°C

n-Heptane 90-100°C

Mix Xylenes 138-142°C

Emulsifying Wax 15% 200 LITRES AND BULK PACKING.

2,4-Dinitrophenyl Hydrazine

Also Available LR/AR Grades

Please Contact Manufacturers :

AMIT ORGANICS

224, Madhani Estate, 542, Senapati Bapat Marg,
Dadar (West), BOMBAY-400 028.
Phone : 4309849/4228968

Pollution charges against 32 co.s in Bombay

The Maharashtra Pollution Control Board (MPCB) has filed criminal cases against 32 industrial units in Greater Bombay for violating the air (Prevention and Control of Pollution) Act, 1983.

According to Mr. C. D. Oommachen, Chairman of MPCB, these units had failed to implement various provisions of the air Act. The provisions related to installing pollution control equipment in all manufacturing units to prevent further damage to the new environment within the city limits.

When the Act came into force in 1983, industries were given a four-month period to submit to MPCB their implementation plans. They were also given a six-month implementation period, Mr. Oommachen said.

Among the 32 units against whom prosecution has been launched now are Genelec Ltd., Universal Luggage Manufacturing Co. Ltd., Music India Ltd., Rajendra Mechanical Industries Ltd., Kaycee Industries, Oriental Containers, New Era Fabrics, Sarda Silk Mills Ltd., and TT Blades.

More prosecutions were likely as MPCB was continuously monitoring industries in various districts in Greater Bombay, Mr. Oommachen said.

Other companies being prosecuted are Jagdish Textile Co. Pvt. Ltd., New Oriental Silk Mills, Sigma Laboratories, Rayon Textile Manufacturing Co., Master Tobacco Co. of India, Saney Corporation Ltd., Supertool Co. Pvt. Ltd., EMCO Electricals, Alliance Silk Mills, Jaihind Plastic and Rubber Industries, Todi & Co., Oriental Metal Pressing Works, Swastik Paper Industries, Konel Corporation, Kathiawar Textile Mills, Kiran Silk Mills Pvt. Ltd., Bharat Vijay Velvet and Silk Mills, Precast Engineering Co., Indu. Engineering Co., Jagdamba Fabric Weaving Works and SC Brothers.

OIL IN THE EAST

The signing of a series of agreements with Chevron-Texaco of the US and International Petroleum Corporation of Canada for oil exploration in and around the Krishna-Godavari and the Bengal basins could not have been more timely. The government spokesmen continue to exude optimism about striking it rich on the East Coast, both offshore and onshore. The other day the Union minister of state for petroleum and natural gas announced another oil strike in the Krishna-Godavari region. But the kind of discovery that can impart a momentum of growth to the region's economy a la Bombay High has not come off. The entry of foreign agencies should ensure more intensive investigation. Apart from these offshore blocks, the government has also invited Soviet experts to explore the West Bengal basin which is said to be highly prospective.

It is no secret that the potential of the north-east has not yet been fully tapped. According to a foreig now working with Oil India, o 20 per cent of the total hyd reserves in the upper Assam has so far been discovered, the Naga hills, he has estima yield about 1,000 million tonn ally rich is the Tripura-Manip of which very little has yet veiled.

Admittedly the extent and drilling in India has been limi drilling density for the coun whole works out to 12 10,000 sq. kilometres agains USSR/China, 500 for North and 45 for Western Europe. figure is due to financial co That is understandable. But be said that whatever drilling done was wrongly planned o backed by sufficient will to results. The number of drill is important, but no less im the selection of site, the which they are dug, the pre nology and equipment used fo pose, and such other factors. has lived too long on pro has to be different now.

GUJARAT OIL AND IND.

Gujarat Oil and Industries fered an operating loss of R lakhs during the year ended on a turnover of Rs. 69.49

After interest charges of lakhs and depreciation of R lakhs, there is a net deficit 38.36 lakhs during the year

FOR YOUR REQUIREMENTS OF :

Strontium Carbonate
Strontium Nitrate
Strontium Chloride
Strontium Sulphate

Please Contact Manufacturer :

Dev Chemicals

Factory :
Alinjuvakkam,
Madras-600 067.

Office :
288, Poonamallee High Road,
First Floor, Madras-600 029.
Phone : 615113

FOR YOUR REQUIREMENTS OF :

osin N (China)

henol

crylamide

austic Soda Flakes

arbon Black
— L.T.D. & L.R. GRADE

M. E. K.

P. V. A. 173

itric Acid

Gilsonite

Hydrogen Peroxide

Trichloro Ethylene

Red Oxide 225

Lithophone

Titanium Dioxide
(RUTILE AND ANATASE)

Zinc Oxide

All Textile Auxiliaries, Chemicals, Solvents, Dyes & Intermediates.
Acids & Whitening Agents
Please Contact :

SHIVNERI COLOUR CHEM

45, Essaji Street, Vadgadi, Bombay-400 003.

Office : 335731/345002 Factory : 6325351 Resi. : 6301784

CAPACITY OF MGCC

IPCL seeks increase

The Indian Petrochemicals Limited (IPCL) has sought an increase of one lakh tonnes per annum in the capacity of the giant Rs. 1,500-crore Maharashtra Gas Cracker Complex (MGCC). This will raise the project's capacity to four lakh tonnes per annum.

This was indicated in New Delhi on January 8th by the IPCL chairman Dr. S.Ganguly at a press conference.

Regarding the progress of the gas cracker complex, he said that it is proceeding according to schedule and no delay is expected in its commissioning, which commences from April this year, in phases. The expenditure incurred on the project so far is Rs. 366 crores while the total commitment made till now is about Rs. 838 crores.

Asked about plans to raise additional resources, Dr. Ganguly said IPCL has sought to raise the amount of funds it can borrow from the capital market from Rs. 300 crores to Rs. 400 crores. The proposal for an additional Rs. 100 crores of borrowings has been submitted to the Controller of Capital issues.

Outlining the new activities of the company, he disclosed that IPCL has signed an exclusive sales agreement with General Electric Plastics, a Dutch subsidiary of GEC of USA to market their entire range of engineering plastics and polycarbonate sheets and film products in India from January 1988.

IPCL is the largest producer of commodoity thermoplastics with plants at Vadodara in Gujarat. The new gas cracker complex under implementation in Maharashtra will increase its capacity to nearly 5 lakh tonnes per annum for low density polyethylene (ldPE), linear high density polyethylene and PVC including 25,000 to annum specialised wire a compounds for the telecom a er sectors.

Dr. Ganguly said GE Pla the world-wide leader in ing plastics and its range internationally known r trademarks of GEC of Lexan, Noryl and Valox as various polycarbonate s film products.

This availability and wi of engineering plastics felt, help emerging hitec tries like telecommunicatic trical and electronics, au and computers in import tion of components and replacing scarce ferrous ferrous metals in many ap demanding high performan

The IPCL is planning facilities for the manufact range of sophisticated pr collaboration with Gener tric. This will save the enormous amount of for change.

Meanwhile, the total outp major products from Apri last year of IPCL was 23 nes as against 231,500 tonr corresponding period of vious year.

The production of son major products during the December, 1987 was clo maximum installed capacit

The action plan targets and profit for the perio December, have been fully net sales till December, c year was Rs. 466 crores, cent higher than the a target and 19 per cent the sales in corresponding previous year.

The supply position of sity polyethylene and density polyethylene has considerably by imports cant quantities through

MARK OF QUALITY
NOW AVAILABLE IN ANY QUANTITY
AS AND WHEN REQUIRED BY YOU

BENZYL CHLORIDE
BENZO TRI CHLORIDE
BENZOYL CHLO RIDE
BENZALDEHYDE

GWALIOR CHEMICALS PVT. LTD.

Factory :
Birlagram,
NAGDA (M.P.)-456 331.
Phone : 283
Gram : "NIYATI"

Regd. Office :
29, Bank Street, 1st Floor,
Bombay-400 023.
Phone : 286 2453/286 3021
Gram : "METALDIST"

RVOIR APPRAISAL

ONGC to instal floating system

id to speed up the assess- the potential of the known s, the Oil and Natural Gas ion (ONGC) has decided to e the 'floating early produc- tem' in its operations.

ystem, the latest in the glo- exploitation technology, will to use for the first time in ntry at the newly discovered es in the western offshore. aining experience in this NGC proposes to operate si- ypes of system for produc- n deeper waters in future.

l be extremely useful for n of reservoir data at an age which will help in re- the time taken to formulate l development plan by at o or three years, informed at New Delhi claim.

has studied the feasibility ng a sustained trial produc- exploiting these structures alling suitable floating early ion system. Installation of ystems would result in mini- time for starting the produc- sides helping in reservoir ap- and quick return on invest- The system permits long- sting and involves low capi- stment.

floating early production sys- n be used as an extended fa- r can become a permanent tion. It can also be re-locat- thus help in serving both ate and future needs.

the western offshore. ONGC arter-hired the system for ars from the international at an estimated cost of Rs. es.

rge number of structures like D-1, B-57, B-131, B-178 and structures in the western e have been found to be oil g and suitable for exploita-

oating system has been de- at D-18 structure located south-west of Bombay High. testing has indicated an oil tion rate of 3000 barrels/day he estimated reserves of the ure are projected to be about lion tonnes.

floating early production sys- t the D-18 structure involves mi-submersible based produc- facility and will have three "basic components — production source, processing facility, storage and transportation. The source of production would be two satellite wells completed sub-sea. The average depth of the wells is likely to be 3500 mtrs. The design capacity has been created for processing 2000 barrels of crude per day on board the semi-submersible.

In addition to this, the floating process facility will have all utilities and living accommodation required to run and maintain the system. The crude oil produced subsea would be pumped to the tanker moored to SBM (single buoy mooring system) located nearby. The transportation of crude would take place by transferring the stored crude to another vessel used as a shuttle tanker. The average production after final completion would be approximately 5000 barrels of oil per day.

In offshore, the first early production system named Sagar Lakshmi was commissioned in December, 1986 in the Panna field. The oil produced from the field is being processed at this jack-up based production facility and is transported to a tanker via SBM.

LOOKING FOR GAS UNDER ROCKS

The Gas Research Institute. USA, and the Swedish Power Board are working on a US $ 30 million integrated programme of deep drilling in crystalline rocks in a bid to prove Professor Thomas Gold's controversial theory, that natural gas is also formed abiogenically (inorganically) in the earth's crust and not only through the biological decomposition of matter.

This theory, if proved, would dispel the popular belief propounded by geologists that naturally found fuels like gas, oil, coal, etc. are formed only through the decomposition of plants and animals buried in the earth. It would also mean that there are large stores of natural gas in areas around the world which remain untapped according to Gold's theory, Professor John M. Valley, of the University of Wisconsin, USA, and a delegate at the Indo-US workshop on the 'Deep Continental Crust of South India, said.

Gram : 'SANCHEM' Hello : 28237 Office
28238
27970 Resi.

ATTENTION
INDENTORS / EXPORTERS
FOR
REACTIVE & REMAZOL
DYES

Contact Manufacturers :
M/s. SANTOSH CHEMICALS
2nd Floor, Everest Bldg.,
Nr. Railway Goods Yard,
SURAT-395 003.

FOR YOUR REQUIREMENTS OF :

HYDRO FLUORIC ACID [40,50 & 60%]

SODIUM FLUORIDE
FLUOBORIC ACID
POTASSIUM BITARTRATE
(Cream of Tartar)
CUPROUS CHLORIDE
ANTIMONY TRIOXIDE

AMMONIUM BIFLUORIDE
(Technical & Anodizing Grade)
SODIUM DIFLUORIDE
POTASSIUM ANTIMONY TARTRATE
(Tartar Emetic)
SODIUM TARTRATE

Please contact Manufacturers :

INDO FLUORINE

Botawala Building No. 2., R. N. 1, 2nd Floor, 8, Horniman Circles,
Fort, Bombay-400 023.
Telephone : 256831
OR P. O. BOX NO. 5073, Bombay-400 009.

For Your Requirement Of :

CHOLINE CHLORIDE (Feed Grade)
CHOLINE CHLORIDE (98% Min.)
TRI CHOLINE CITRATE 65% Soln.
IRON CHOLINE CITRATE 66% W/W
CHOLINE BI TARTARATE
TRI ETHANOLAMINE
MONO ETHANOLAMINE
DI ETHANOLAMINE
CELLOSOLVE
BUTYL CELLOSOLVE
METHYL CELLOSOLVE
CARBITON
BUTYL CARBITOL
GLYCINE
B.H.T. (Butylated Hydroxy Toluene)
DIOCTYL SODIUM SULFOSUCCINATE (DO
DI SODIUM EDTA
SLS POWDER
TWEEN — 80 (Polysor
PEG 4000
METHYL POLYSILOXAN
(MPS 35% ± 2% Emul
SIMETHICONE (Katrang

Please Contact :

MANSEE CORPORATION

Vimal Udyog Bhavan, 6-A, 2nd Floor, Manorama Nagarkar Marg,
Opp : Badal-Bijali, Mahim, Bombay-400 016.
Telephone : Office : 4306297-4302205

AVAILABLE REGULARLY IN BULK

Diethyl Malonate

Excellent Quality

Also available Flavouring Essences Grade.

Please contact for Your Requirements the Manufacturer :

Sky-Chem Industries Private Limited

CIB-11/12, GIDC, Kabilpore, Navsari-396 424.
Post Box No. 59, Navsari-396 445.
Phone : 3304
Gram : 'SKYCHEM'

to reporters after the in- of the workshop, Pro- ley noted that the project enced in the Siljan Area in July 1986, where en- and geological experts had hole up to a depth of 6.5 recambrian granite. It was the deepest hole ever drilled into granite, with a diameter of 17.5 inches at the top which narrowed down to seven inches at the bottom.

However, Professor Valley noted that although samples recovered from the area had shown traces of methane, helium and hydrogen, the results so far had not been supportive of the theory. The project however, still remained controversial with the Swedish government proposing to continue the effort this spring.

— **Economic Times.**

TROLEUM PROJECTS

Huge market borrowing likely

ion Government might en- apital market with a huge programme to execute the petroleum projects in ne says a **Financial Express** espatch.

g hint to this effect was Mr. G. V. Ramakrishna, in the Petroleum Ministry, king to newsmen.

estion of tapping the capi- et will be unavoidable he Government can, at the wait till the Eighth Plan g.

as the ongoing projects like al and Mangalore refineries erned. the Government can asy as they are in the joint s a rule, the petroleum sec- s about Rs. 3,300 crores a investment in various pro-

it could do without either udgetary support or borrow- was capable of generating 5-90 per cent requirements y. It was. in fact, 90 per il the Gas Authority of In- (GAIL) came into existen- situation will improve once arts generating its own re-

oned on the possibility of a ke, Mr. Ramakrishna said oleum sector was not to be with either coal or steel eeded price increases to off- losses. If at all there was hike for petroleum products, l be for extraneous consi- s.

ing to the oil exploration s, he informed that four on the East coast and three on the West coast have been d for exploration by foreign es and negotiations for of contracts were going on. East coast three blocks were Krishna-Godavari basin and Palar north. On the West he three blocks were on the Karnataka coast.

Asked on the prospects of setting up gas-based projects in the South, Mr. Ramakrishna pointed out that it depended upon a variety of factors. In the first place, utilisation of gas was different from that of oil with the former requiring careful investment planning.

For gas-based projects, the investments had to be made at three different stages, namely, development of gas grid, laying of pipelines and setting up of the project. This called for a 'synchronised investment' pattern to make the whole exercise economically feasible.

In fact, this 'synchronised investment' requirement had been the biggest problem faced in the planning of gas-based projects. The Planning Commission had recently set up a committee to deal with this, Mr. Ramakrishna said.

In the South, though the Oil and Natural Gas Commission (ONGC) had identified gas reserves and made some estimates, any concrete proposal could be taken up only after assessing the actual geological reserves and working out a steady production programme.

Asked on the possibility of setting up a mobile or mini-refinery at Cauvery basin, Mr. Ramakrishna said this also could be done only after establishing the production potential in the area.

Mr. Ramakrishna noted that due to the fall in the price of oil in the international market, the country could save as much as Rs. 1,700 crores in the import bill in 1986-87. This year, however, the import bill would be slightly on the higher side

AVAILABLE

ACETONE

Contact

Sultanchand Bimalprakash

403, Faiz-E-Qutbi, 375, Narsinatha Street, Bombay-400 009.
Phones : 330391/323425/333298
Cable : "DELHICHEM" Telex No. : 011-75469

Kiran Mansion, 4834/24, Ansari Road,
New Delhi-110 002.
Phone : Offi : 275955 & 275956 Resi.: 2914275 & 2510057
Telex : 031-61441 SCBP — IN

mainly because the country would be importing more petroleum products instead of crude.

Earlier. addressing a worksohp on 'Future availability of petroleum products' organised by the Confederation of Engineering Industry, Southern Region, he said that the USSR, which had agreed to explore oil in the Cauvery and Cambay basins, had also come forward to take up Bengal Basin.

Mr. Ramakrishna was happy over "positive" indication of inter-carbon reserves in both the Krishna-Godavari and Cauvery basins. However, he would not expect a "realistic" projection of production before the Ninth Plan (2000 AD). New technology would have to be brought in to help accelerate exploration efforts.

The Petroleum Secretary expressed concern over the increasing demand for petroleum products especially of the middle distillates like diesel, kerosene, motor spirit and LPG, and forecast a 50 million tonnes demand by 1988-89 going up to 70 million tonnes by 1995-96 and 100 m.t. by the turn of the century. Against this. the country's production (of crude) would be around 43 mt. by 1995-96 against 34.5 mt. by the end of the Seventh Plan.

The demand for LPG, the popular domestic fuel, would also go up in the coming years, with an addition of 16 to 17 lakh consumers every year. With heavy power shortage industries and agriculture would need more quantities of diesel to run the captive generation sets and pumpsets.

Railway freight should be restructed so as to make the mode of transportation attractive as use of diesel by the Railways was more efficient compared to road transport, Mr. Ramakrishna said.

He said that Indian had come up well to su only the country's oil ind supplying the required ec but had also been able to the vast Soviet oil industr their capabilities to meet a its (Soviet industry) indent

Mr.. V.R. Deenadayalu, man and Managing Director Refineries Ltd. pointed out refineries would have to swi from "secondary processing to "hydrocracking" to r growing demand. He wante tries to use large quantitie tural gas available in the and KG basins.

Mr. Kumar Mahadevan, man, CEI, SR, said that th power-cuts in the south, h ed industries to resort to power generation, which need more and more of die

ONGC spots new areas in Bihar

In the scenario of encouraging hydrocarbon discovery, Oil and Natural Gas Commission (ONGC) has been able to bring into its fold of operation another very prospective region.

"The new region is Himalayan foothills and Ganga valley basin comprising an area of 70,000 sq. k.m. cutting across the districts of Champaran Saran, Shahabad, Muzafarpur, Darbhanga, Saharsa and Purnea of Bihar, according to an ONGC spokesman.

The hydrocarbon reserve in this region is estimated to be around 370 million tonnes, the spokesman added. ONGC has completed drilling the deepest oil well. The well Madhubani-I was drilled up to a depth of 5957 metres, the spokesman said.

ONGC has done seismic work in an area of 3800 standard line k.m. between 1960 and 1987 in Bihar. In this region ONGC has so far drilled four wells in a total area of 19083 metres.

The spokesman added t ing the Seventh Plan, O proposed to conduct 20 pa of geological work along years of gravity magnet party years of seismic wor Bihar region.

The spokesman furthe that a long-term oil and lopment plan has been envi the Krishna-Godavari basi sing an area of 41,000 sq with an estimated 337 mil metres of gas and 423 mi nes of oil.

For Your Requirements Of :

Acetone, Benzene, Butanol, Creosote Oil, Cyclo Hexanone, C.T.C., Chloroform, DEG, Diacetone, D.O.P., D.B.P., Ethyl/Butyl Acetate, E.D.T.A., E.D.C., Formic Acid, Formaldehyde, Glycerine, I.P.A., M.E.G., M.E.K., N-Hexane, Nitro Benzene, Phenol, Toluene, Tri/Per Chloro Ethylene, Xylene and everything in Solvents, Minerals, Heavy and Fine Chemicals and

ZINC OXIDE

(White Seal and as per ISI Specifications)

(With 15% Excise Duty — Gate Pass)

Manufactured by : **M/s. R.S. AGENCIES - Calcutta**

Please contact Authorised Dealers for Maharashtra & Tamil Nadu.

M/s. BHANSALI CHEMICALS

Bombay Office : 101-A, Matruchhaya, 378/80, Narsi Natha Street, Bombay-400 009. **Phone : Office : 334064/346126 Res : 686918**
Madras Office : 26, Nyniappa Naick Street, IInd Floor, Madras-600 003. **Phone : Off : 563147/565211, Resi : 563855/551004**

50 M Italian credit for power projects

nd Italy signed three me- of understanding (MoU) on roviding for a $ 250-mil- an credit for projects in the ector, technical assistance eld of engineering and r the Farakka super ther- er project.

decisions were announced -minute talks between the inister Mr. Rajiv Gandhi, Italian counterpart, Mr. Goria, and simultaneous ns between senior officials vo countries.

alian credit would be on nal terms and the techni- ance for setting up a main- centre at the Regional Col- Engineering at Srinagar, an pokesman said.

ant would be for the sup- pilers to the Farakka super power project of the Na- ermal Power Corporation

emoranda would be signed Finance Secretary, Mr. S. amanan. and the Italian dor, Mr. Rinieri Paulucci li, in the presence of the of State for External Af- . Eduardo Faleiro and the oreign Minister, Mr. Giulio

okesman said the two Prime felt that interaction bet- two countries in various s limited and there was r expanding economic co-

oted that there was enough to build on mutual good- he two countries.

official talks, Italians soften the terms of Gov- o-Government assistance op relations between bank- financial institutions of the tries to finance joint ven- India.

alian side also agreed to the possibility of providing assistance to India in foot- igning and development, llery designing.

the rapid increase in Indo- ade last year, the two sid- of the view that the in- momentum must be main-

dian delegation at the offi- discussions was led by tional Secretary in the Ex- ternal Affairs Ministry, Mr. Arjun Asrani, and included another Additional Secretary, Mr. Muchkund Dubey and the Indian Ambassador in Rome, Mr. Akbar Khalili.

The Italian side was led by Mr. Enzo Periot, the Director-General for Political Affairs in the Foreign Ministry and included Mr. Patrizio Schmidlin, Director-General for Co-operation in the same Ministry.

Haldia Petrochem may not take off

Political considerations on the part of the Centre may ensure that the much publicised Haldia Petrochemicals project, sought to be set up by the West Bengal government and industrialist R.P. Goenka in the joint sector, remains a non-starter says a report in the **Economic Times.**

If present indications are anything to go by, the grounds on which clearance is reportedly being withheld do not really hold water and only a nod from the highest level is standing in the way of the project. And that green signal, it now appears, will never be given and a project, on which the industrial future of West Bengal depends to a great extent, will never see the light of day.

Doubts about the viability of the project at a naphtha cracker capacity of 1.35 lakh tonnes per annum have been raised again and again even after the IDBI sanction. At the recent meeting between the West Bengal chief minister Mr. Jyoti Basu and the Union finance minister Mr. N.D. Tiwari, this was the major point discussed. The West Bengal government's stand on this point is that the viability of the project should be considered in its totality. In other words, the downstream products should be taken into account with the mother plant. According to official sources, revised calculations indicate that the rate of return after the change in product mix and debt-equity ratio has gone up to 18 per cent from 15 per cent earlier. The Centre, however, feels that the cost benefit analyses of the mother plant and the downstream industries should be done separately.

The project cost which stood at Rs. 1,470 crores has come down by Rs. 200 crores as production of MEG has been deferred for the time being and alternative arrangements are being made for the acquisition of a captive power plant and a township. WBIDC is learnt to have tied up with a local party for getting a township on lease. As for the power plant, suppliers' credit is reportedly available for importing the plant and if imports are not permitted, then local suppliers' credit would not be difficult to obtain, sources claim. MEG would be included in the product-mix at a later stage with investment from internal accruals.

Thus the cost now stands at approximately Rs. 1,270 crores. Sources say that the earlier debt-equity ratio of 3:1 has now become 2.7:1 with equity contribution remaining Rs. 370 crores as desired by IDBI, and thus with Rs. 700 crores coming from banks and financial institutions and Rs. 100 crores from debentures, there remains a gap of around Rs. 100 crores. It should not be too difficult for the state government to mobilise at least Rs. 50 crores and the remainder could be met if all the other agencies stretched their loans slightly, official sources point out.

The supposed "overlending" on the part of financial institutions and banks is being exaggerated, the state government feels. After all, if the project is handed over to either of the two Bombay-based industrial houses, who it is learnt are planning to put up similar plants in the private sector. or any other interested party for that matter, the expenditure involved would not be any less, it points out. However, caution on the part of IDBI and the banks which would provide Rs. 700 crores, perhaps the largest amount ever extended for a project outside the state sector, is not unjustified. Should the project flop for any reason, they would be in a tight spot.

The low stake of the promoters in such a huge project is believed to be causing the Centre some concern. Why the concern has surfaced all of a sudden and after IDBI cleared the project, knowing fully well who the

private sector partner was and after having checked out his financial credibility is incomprehensible. Of the total investment of Rs. 1,270 crores, the private sector partner, Mr. R.P. Goenka's involvement would be around Rs. 46 crores and the Centre is apparently unwilling to accept this.

It must be remembered that Mr. Goenka is not the only promoter and that the West Bengal government's own participation would be to the extent of Rs. 96 crores with the two foreign collaborators, Chemtex and Linde of West Germany, together putting in about Rs. 46 crores. The state government has so far spent about Rs. 25 crores on infr development and sees no any anxiety on the part o tre. If the project does through, the biggest loser the state which is really forward to a venture of t to boost industrial develop

IRE to open new mineral separation plants

The Indian Rare Earths Ltd. (IRE) has proposed opening three new mineral separation plants for extracting minerals from the black sand found along the coasts of Maharashtra, Tamil Nadu and Andhra Pradesh.

With the Atomic Minerals Division in the Department of Atomic Energy having completed the preliminary investigations of the sands, which have indicated huge reserves of minerals, IRE is in the process of obtaining the necessary clearance for setting up the plants.

The plants are proposed to be set up at Ratnagiri in Maharashtra, Tuticorin in Tamil Nadu and near Visakhapatnam in Andhra Pradesh, where the beaches have revealed large deposits of black sand.

Talking to newsmen at Vishakhapatnam on Jan. 6 Mr. R.K. Garg. Chairman and Managing Director of IRE, who is visiting the identified patches of black sand on the 30 km stretch of beach between Visakhapatnam and Bheemunipatnam, said that the projects may not be grounded simultaneously.

He said that preliminary studies had shown that the setting up of three plants at the identified places would be a workable proposition. The plants, each of which would involve an expenditure of Rs. 15 crores, may be set up in a phased manner.

Among the three places identified for establishing the plants, the beaches near Visakhapatnam offer a better proposition due to its greater concentration of minerals menite, monozite and ruti beaches in Tuticorin have gest reserves of black sand sess minerals in lesser while the deposits in the coast are not large.

Mr. Garg said that the already working on obta mining leases and cleara the Department of Environ Bureau of Mines, which about a year to complete. take about two years to mineral separation plant.

IRE is proposing to en collaboration with the State Governments in sett plants. IRE had so far en nopoly in its projects lik cessing plants at Chatravu Chaura near Quilon in K Manavalakurchi in Tamil

Mr. Garg said that the duction of the existing IRE was about 4.5 lakh the demand for the minera ed from black sand was the country. The produ proposed plants would b the indigenous demand a port.

He said that the plants no environmental haza system of extracting m not involve any chemi sing. Moreover, as m centration in the sand twenty per cent, eighty the sand dug out would ported back to the beach, even taking up plantati the mined areas.

Mr. Garg said that as es were discovered abo ago a detailed survey of fied areas was being for more precise data.

Mr. Garg is visiting between Visakhapatnam munipatnam with a tean including, Mr. A.C. Director of the Aton Division and Prof. V.L.S karam, Chairman and Director of the Andhra neral Development Corp

EDTA

(Sequestering/Chelating agents)

EDTA	NTA	
EDTA DI SODIUM	NTA TRI SODIUM	
EDTA TETRA SODIUM	Zn-EDTA	MICRO NUTRIENTS
EDTA TETRA SOLUTION	Fe-EDTA	
EDTA-FERRIC SODIUM	Cu-EDTA	
EDTA-FERRIC AMMONIUM	Mn-EDTA	
EDTA DI POTASSIUM		

Manufacturers

SONY CHEMICALS

5B/62 Mittal Estate
Near Marol Naka, Bombay-400 059.
Phone: 6326202 Telex: 011-72398 SOC IN

New Products

OPLASTIC NATURAL BLENDS

oplastic natural rubber (TP-nds are a family of materials by blending natural rubber rolefins, particularly polypro- in varying proportions. As the ion of the blend varies, ma- ith a wide range of proper- obtained, and the family is sily considered as having two members. At high rubber con- blends are thermoplastic rs, whilst semi-rigid, rubber- polypropylenes are obtained ubber contents. Over the last three years there have been ble improvements in the s of both types of TPNR

ds

ft grades of TPNR blends fall olefinic class of thermoplastic s. There have been improve- the crosslinking system partial dynamic crosslinking atural rubber phase during This has led to improved g resistance and improve- some physical properties. The ent of better antidegradant has given a substantial in- resistance to heat ageing. essability of the blends parti- respect of extrusion, has improved.

ft grades of TPNR blends, be classed as thermoplas- ners, have hardnesses in the to 95 Shore A. The strength ery properties compare fa- with those of similar types of stic elastomer based on syn- ber. Although the resistance g by oils also is somewhat n that given by general-pur- er vulcanisates, the TPNR not oil-resistant materials. plastics rather than rubber machinery is required to in- uld or extrude TPNR; the not suitable for compression The viscosity is strongly de- n shear rate, but the tem- ependence is less marked. cessing TPNR, 180°C should d as the minimum melt temperature. Higher temperatures than those quoted do not give any significant benefit and, for fast mould filling and minimum part distortion, it is more important to use sufficiently generous gates and runners and a high injection pressure followed by hold pressure of about 70 per cent of the injection pressure. The mould temperature affects mould filling and the finish of the part; both are better at the higher end of the quoted rate.

Scrap and reject mouldings can be granulated and recycled. The good resistance of TPNR to heat ageing noted above is also apparent in the ability to withstand multiple reprocessing. Moulding, granulating, and reprocessing up to five times causes no significant change in the tensile strength of a TPNR blend and only a small reduction in modulus and increase in elongation at break. Nonetheless, TPNR should not be held in the cylinder for more than about 20 minutes, and purging with polypropylene or polyethylene is recommended at the end of a run.

Extruders used for TPNR should have an L/D ratio of not less than 20 and a compression ratio of about 2.5. The barrel temperatures used should be similar to those given for injection moulding.

TPNR does not need to be dried before extrusion, unless the blend contains hygroscopic fillers. To avoid porosity when extruding such filled blends, drying for about two hours at 80°C is recommended, particularly after storage for several weeks. A vented extruder will also prevent difficulties with porosity.

Hard grades

The hard grades of TPNR are rubber-toughened forms of polypropylene with flexural moduli in the range 300 to 1000 MPa. The key property of these materials is impact strength, particularly at low temperatures, and ethylene-propylene rubbers are commonly blended with polypropylene in order to achieve the required high degree of impact resistance. The impact strength of a rubber-toughened thermoplastic is dependent on several factors, particularly composition, phase morpho-

FOR YOUR REQUIREMENTS OF :

BARIUM SULPHATE IP/X RAY

at Rs. 15/- Per Kg.

Please Contact :

TRICO CHEMICALS

C/29, Vijay Smruti,
19th Road, Chembur, BOMBAY-400071.
Tel : No. : 527875, 523152
Grams: 'TRICOGOLD'-Bombay-71
Delhi : P-33, Sector XI, NOIDA, UP - 201 301.

logy, interfacial adhesion, and the cohesive strength of the rubber phase. By paying due attention to all four factors, including the use of additive systems to increase the last two, natural rubber is now a viable alternative to ethylene-propylene, rubber as an impact modifer for poly propylene.

The processing conditions given for the soft grades of TPNR are also appropriate for the hard grades. There is some benefit in working at the higher end of the quoted ranges.

Potential applications of the soft grades of TPNR include the replacement of the rubber vulcanisates and other thermoplastic elastomers in products such as footwear, sports goods, seals and hoses and in the automotive sector. The automotive sector is also the largest potential market for the hard grades in applications such as bumpers, spoilers and body protection strips. They may also find use in other applications demanding a high degree of toughness — plugs, connectors and industrial floor tiles for example.

Commercial supplies of TPNR are being established, and it is anticipated that production by companies in Europe and the U.S. will begin soon. There is already some commercial use of TPNR in India in the production of interlocking industrial floor tiles and motorcycle baggage boxes.

INFRARED LASER GAS DETECTORS

The Thornton Research Centre of Shell Research Ltd has developed a laser gas detector that uses a beam of infrared light to detect any gas crossing its path. Shell has licensed the invention to Sieger Ltd, a company specialising in industrial gas and liquid analysers. Its laboratories can simulate virtually any conditions, enabling it to investigate problems and develop the most appropriate solutions.

The detector makes use of modern infrared and solid state electronics technology to provide a sensor that is inexpensive, reliable and capable of giving considerably greater protection than conventional pellistor catalytic devices. It also cuts the cost of installation and cabling involved in covering a plant with hundreds of point sources.

Instead of measuring the gas concentration at one point, this new instrument projects an infrared beam through the area where gas escapes occur. Gas will be detected if it enters the beam anywhere along its path. As a result, escapes can be detected at an earlier stage. Shell says the inherent simplicity of this open path instrument, which has no moving parts, makes it very competitive with existing sensors.

Previous attempts to make a beam detector involved the use of gas lasers which, besides expensive, needed high voltage supplies capable of igniting the escaping gas. The Thornton detector operates at voltage and power levels sufficiently low to ensure that escaping gas will not be ignited.

The instrument comprises a transmitter and a receiver. The former contains the infrared source and optics to collect the radiation and project it outwards as a collimated beam. The latter monitors the intensity of the beam at two wavelengths. Hydrocarbon gases, such as methane and propane, absorb light at one of these wavelengths but not at the other, so the ratio of the two signals can be used to detect the presence of these gases.

The signal processing is carried out by a microprocessor incorporated into the receiver unit. The microprocessor performs the ratio calculations and determines whether gas is present, carrying out various self-checks. Because the signals from both wavelengths are attenuated equally, their ratio remains constant and neither bad weather nor dirty windows will cause difficulty.

Moreover, the microprocessor can distinguish between the presence of gas and a solid object obstructing the beam. A short interruption, such as someone walking through the beam, is ignored and the microprocessor resumes normal operation once the obstruction is removed. If the break lasts longer, the microprocessor will signal a fault condition.

The instrument has nearly the same sensitivity to explosive mixtures of all hydrocarbon gases and vapours. It can be used in the natural gas, mining and water industries where methane is the main hazard, and in petrochemical plants where heavier hydrocarbons may pose a threat. It is also fail-safe and will not give a misleading zero if dangerous levels of gas are present, in contrast to a catalytic detector type which may not indicate gas at all if it has been badly poisoned.

Two versions have been de
The first is designed for use
shore platforms and in places
relatively short path length up
metres is required. The transm
receiver sections are mounted
in the same housing and used
junction with a special reflecto

This is made up of an array
ner cube reflectors which ensu
the beam is always returned e
the receiver, even if flexing of
form or vibration causes the
tor to move slightly. One of t
tectors is being installed for
a platforms in Shell and Esso
field in the North Sea.

In the second version, the
ter is separate from the rece
veral receivers can be used in
tion with each transmitter, to
tallation costs low. Designed
trochemical plants, where lon
lengths are necessary, each
may be up to 200 metres
transmitter.

Field trials of this version
UK Exploration and Producti
tural gas liquids processing
Mossmorran, in Fife, Scotlan
shown not a single break in
over a typical six months wint
spanning a complete process
— a distance of 92 metres.

RIL'S NEW VENTURE

Reliance Industries will b
ing another company, reliance
chemicals Limited, for takin
project relating to polyethyle
and caustic soda initially in
Since RIL itself has incurre
ment heavily in its new unit
ganga in Maharashtra and i
easier to raise the required
the new schemes under diff
pices, it has been thought d
promote another venture,
above.

The total outlay is estima
850 crores in the first phas
ther sizable expenditure may
be incurred in the subseque
other units are proposed to
in this centre. New project
managements for utilising
available in large quantities
be coming up at this centre
ner in which the required fu
raised by the associated co
RIL will presumably be mad
the coming weeks.

OMPANY NOTES

Ficom Organics

pharma.

aving successfully diversified manufacture of dodecyl phenonyl phenol in a big way odest start with malathion Ficom now proposes to go rther diversification into the pharmaceutical intermediates.

mpany is setting up a project anufacture of 350/400 tonnes phenyl glycine and its dane e project cost is estimated Rs. four crores. The entire d machinery are indigenously and also the raw materials. s entered into a technical v agreement with the premier institution in the country — Chemical Laboratory (NCL), the development of process v for the preparation of phene and its dane salt. Phenyl nd its salt are an intermediate anufacture of ampicillin, ce- and other related semi-synicillins. At present, phenyl is totally imported into India genisation of the production a significant achievement as very few producers in the The market for ampicillin, ce- and the intermediates are at a fair rate and the produhaving a ready demand. At full n, the annual foreign exchangs to the country are estimaIs. nine crores.

was incorporated on May 18, The company was promoted . Financial Consultants and nent Services Private Ltd. and Investment Company Pvt. Ltd. mer is one of the leading finonsultants and merchant bankch specialises in arranging proncing, public issue manageanagement consultancy and alas. The promoters have earlioted Carbon Corporation, a imited company for the manuof 6,000 tonnes per annum of electrodes and anodes.

Plant site commissioning

The public issue was made to part-finance the Rs. 189-lakh project at Ankleshwar, Bharuch district, Gujarat for the manufacture of malathion technical — a pesticide — with an annual capacity of nearly 1,000 tonnes. The commercial production started in May 1981.

The project was completed in a record time of 13 months starting of the construction activity. The company obtained the technical know-how and engineering services for designing, installation and commissioning of the plant from Excel Industries. Malathion technical finds uses in malaria eradication programmes and in the agricultural sector as a wide spectrum pesticides.

Public issue

The company went public on November 27, 1979 in less than six months of its incorporation. The public issue was 3.30 lakh equity shares of Rs. 10 each, aggregating Rs. 33 lakhs. The public issue was over-subscribed approximately by three times. With the public issue, the total equity base of the company was Rs. 55 lakhs.

First diversification

Ficom secured a licence for the production of 2,500 tonnes per annum of dedecyl phenol and nonyl phenol. It developed technology in its in-house research and development for the production of dodecyl phenol and nonyl phenol, both of which are 100 per cent import substitution products. The commercial of dodecyl phenol commenced on March 22, 1985 while that of nonyl phenol on February 4, 1986.

Nonyl phenol manufactured by it has been accepted by all the user industries of the product like the manufacturers of ethoxyiates, resins, antioxidants, stabilisers, etc. For the past several years, India had been importing nonyl phenol from Japan but near-

For Your Regular Requirements At Very Competitive Rate Of The Following Chemicals :

BUTYL ACETATE
DICO SOL (Polyvinyl Acetate Emulsion — 50%)
BINDER
FIXER
SOFTNERS (All Types)
DICOSCOUREX D-200 & D-400
P. E. WAX EMULSION
STAIN REMOVING AGENT
DYE SOLVENT

Please Contact Manufacturers :

DICOL PRODUCTS
MANUFACTURERS OF TEXTILE AUXILIARIES
16/18, Dariasthan Street, 1st Floor, R. No. 13,
Yusuf Mansion, Bombay-400 003.
Phones : Office : 330337/342622, Resi. : 683281
Factory : Bhaiunder (East), Dist. Thane.

ly a year ago Ficom has exported one container of nonyl phenol to Japan. It has obtained registration for increased capacity of nonyl phenol up to 2,500 tonnes per annum from 1,200 tonnes.

Existing capacity, output

The licensed capacity of malathion technical is 1,650 (installed capacity also the same) of dodecyl phenol and nonyl phenol is 2,500 tonnes each while the installed capacity is 5,500 tonnes for both dodecyl phenol and nonyl phenol together. Ficom produced 1265.904 tonnes of malathion technical during 1986-87 against 934.916 tonnes, dodecyl phenol 1907.121 tonnes against 1663.677 tonnes and nonyl phenol 866.811 tonnes against 196.200 tonnes in 1985-86.

Sales of malathion technical during 1986-87 were 1,248.854 tonnes against 991.843 tonnes (Rs. 413.33 lakhs against Rs. 363.33 lakhs) of dodecyl phenol 1907.121 tonnes against 1690.970 tonnes (Rs. 672.25 lakhs against Rs. 611.43 lakhs) and nonyl phenol 866.811 tonnes against 196.200 tonnes (Rs. 239.43 lakhs against Rs. 50.30 lakhs).

SUDARSHAN CHEMICAL

Sudarshan Chemical Industries, which fared well for the year ended June, 1987 and stepped up the equity dividend from 15 per cent for 1985-86 to 18 per cent for 1986-87, has completed the modernisation project of Rs. 5 crores for upgradation of process and technology, energy saving and anti-pollution measures. This project has improved the operation performance of the company and it will continue to get benefits in future also.

According to Dr. R. J. Rathi, chairman, the company has completed the project for the manufacture of Butachlor-A pesticide which is presently imported in large quantities. The company has test-marketed this product in the last season. During the year exports have increased to Rs. 4.60 crores from Rs. 2.91 crores in the previous year.

The sales during the first five months ended November, 1987 have increased by 25 per cent over the same period last year and the company expects better results during the current year.

For Your Regular Requirements of :

MICRO CRYSTALLINE WAX (All Grades)

TEXTILES PRINTING WAX

POLYETHYLENE WAX

CARNUBA WAX * MONTANA WAX

LIQUID PARAFFIN OIL

PETROLEUM JELLY

WHITE OIL

AND WAXES AS PER YOUR SPECIFICATION

Please Contact :

Petrofine Corporation

14-A, Anant Deep Chambers, 273/77, Narsinatha Street, Bhat Bazar, Bombay-400 009.
Phones : 855 8257/855 7384

AMBUJA PETROCHEM

Shri Ambuja Petrochemical come out of the red and is declare maiden dividend for ended June 30, 1988.

Mr. Rajesh Jaikrishna, D the company said that the loss amounting to Rs. 138 l been wiped out. He also indic the company would be able net profit around Rs. 2.5 cr the year 1987-88.

According to him it has im financial working during the years. Its turnover which was lakhs for the period 1-7-31-12-1986 has now increas 839 lakhs for the period 1-7-31-12-1987. The net profit creased from Rs. 40 lakhs to lakhs for the half year endin 1987.

The company is now diver activities by implementing a manufacture food grade fum For this project it would be waste gases of the existing surplus steam.

The project cost is estima around Rs. 5 crores which financed by a right issue o crore and institutional loans crores. It has already signed collaboration agreement Suisse Italia and has entered tailed engineering contract Project Ltd.

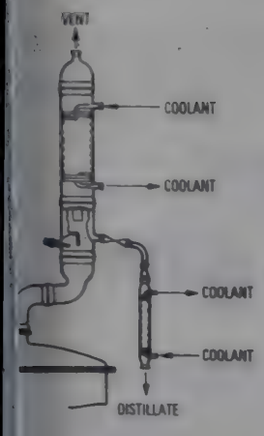
It is now coming out with issue of Rs. 2.1 crores by of right shares for each five shar

SHIVALIK FERT.

Shivalik Fertilisers has g deeper red during the first period ended October 19 gross loss during the perio 12.70 lakhs against only P lakhs in the corresponding p year. The turnover has riser 583.05 lakhs from Rs. 570.

With depreciation claiming Rs. 36 lakhs against Rs. 27. the net loss has amounted to lakhs compared to Rs. 28.72 a similar period last year.

A WIDE RANGE OF GLASSWARE FOR VARIOUS INDUSTRIES



SPECIALISTS IN :

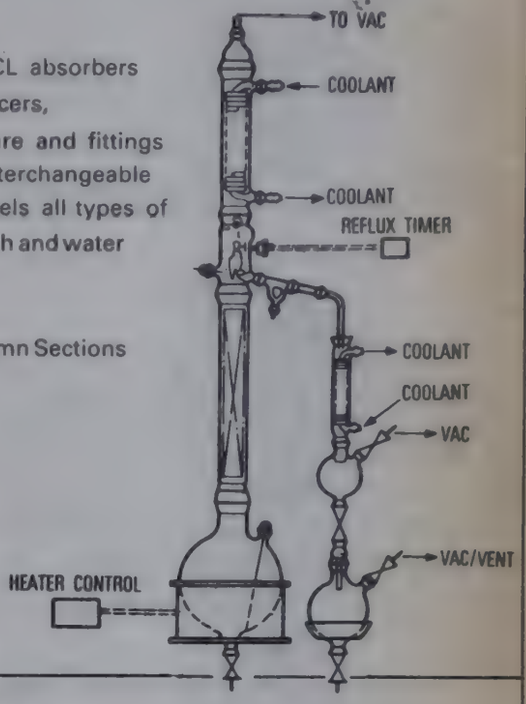
— 10 L. to 200 L. all glass Reaction and Distillation units — HCL absorbers upto 12" — Heat Exchangers, Columns, Bends, Valves, Reducers, Reflux Ratio Heads upto 12" diameter etc. — Complete structure and fittings — Erection and Installation of glass units — Laboratory/Research interchangeable glass apparatus and units — Ready Stock : 100L. 200L vessels all types of imported QVF type column components, 9" 12" 18" — Oil bath and water bath with leakproof.

We undertake repairing of :

20 L to 200 L flask, Heat Exchangers, R.H.M., R.D.A., Tee, Column Sections upto 18"

We supply all glass parts for the following plants

Fine Chemical Plants	Benzene manufacturing
Breweries & Distilleries	Pesticides & Insecticides
Organic & Chemical Plants	Pharmaceutical & Chemical
Dye Chem Industries	Pilot Plant for Research & Development Centre.



Super Scientific Glass Industries

E-66 Sardar Industrial Estate, Ajwa Road,
Baroda - 390 019. Phone : 556188 Gram : 'Super Glass'

DS

ACTUAL USERS

AVAILABLE AGAINST YOUR OWN IMPORT LICENCES THE FOLLOWING FROM OUR PRINCIPALS -

M/s. COALITE GROUP PLC. -- U.K.

AT MOST COMPETITIVE PRICES

1. META CRESOL 40/42%
2. MONO CHLORO ORTHO PHENYL PHENOL
3. PARA CHLORO PHENOL
4. ORTHO CHLORO PHENOL
5. 2:4 DICHLORO PHENOL
6. 2:4:6 TRICHLORO PHENOL
7. VARIOUS GRADES OF CRESYLIC ACID
8. VARIOUS GRADES OF XYLENOLS
9. PARA CHLORO META XYLENOL
10. CATECHOL 95%

Please Contact:

AMRITLAL CHEMAUX LIMITED

RANG UDYAN, SITLADEVI TEMPLE ROAD, BOMBAY 400 016

Phones: 453251/461077/462655 * Telex: 011-71514 AMCO IN

PROPYLENE GLYCOL USP
EPICHLOROHYDRINE
PARAFORMALDEHYDE 91 & 96%
DIETHYL MALONATE
TWEEN-60
HYFLOSUPERCELL - USA
P.E.G. 4000 & 6000
STYRENE MONOMER
ROSE CRYSTAL
ISOPROPYL CHLORO ACETATE
GLYCERINE USP
LACTOSE IP/BP
POLYPROPYLENE
TITANIUM DIOXIDE RCR2
BUTYL CELLOSOLVE
N. BUTANOL
DIMETHYL SULPHOXIDE
METHYLENE CHLORIDE
PARA CRESYL PHENYL ACETATE
METHYL CHLORO ACETATE
MANNITOL USP
MELAMINE
BETA PICOLINE
PHENOL USP
CYCLOHEXANONE
TUNG OIL -- CHINESE
DIMETHYL FORMAMIDE
SOYA LECITHIN
CYANAMIC ACID
TRICHLORO ETHYLENE

OFFERING FROM READY STOCK THROUGH EXPORT HOUSE

CHEMO INDIA

24, Jambulwadi, Room No. 47,
1st Floor, Dhobitalao,
Bombay 400 002.

Tel.: 313412/258974/316166
Gram: SOLVCHEM
Telex: 011-6134 KEMO IN

when you think of

MINT FLAVOU

COME TO

Bhagat Fine Chemi

164, Sitaram Poddar Marg, Bombay 400002, Ind
Phone: Off. 316928-310878. Gram: PUREPUDI

WELKNOWN FOR

Bhagat's "LAXMI

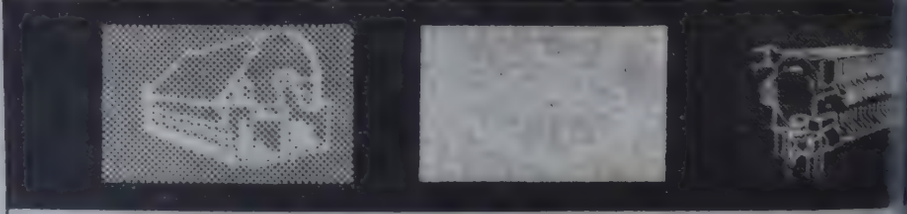
MENTHOL CRYSTALS &
CUSTOM MADE MINT OIL VARIE

"FOR FLAVOURS AND PHARMACEUTICALS"
Also available specialities like Terpenes, Menthone M
acetate, Exmint Oil

FILTER CLOT

For the various Indust
Dyes, Chemicals Ceram
Fertilizers, Pharmaceut

our range of Fabrics include those Fabrics made from Polyamide (Nylon)
Polyester, High Density Polthene, Acylic, P.V.C. etc. We can also supply re
Bags, Filter Bags, leaf Filter, Kelly Filter and Dust Collector Bags as per Sar



JAY JAY Enterprises

MANI MAHAL, 11/21 MATEW ROAD,
OPERA HOUSE, BOMBAY: 400 004
PHONES: 8113772 ■ 8110478

GRAM: "JAYFLOW" TELEX: 011-73970 JAY IN

Associated: MAHAJAY ASSOCIATES

TLIGHT ON
iotechnology & Life Sciences (Part 2)

E PROJECTION ON THE ES OF BIOTECHNOLOGY-PRODUCTS

JS sales of biotechnology-roducts will grow at a rate of annum from $660 million in more than $10 billion in cording to a new study by ng Resources Corporation on, Mass.). Products cur- the pipeline or now in the will boost industry sales by the next 5 years, to a 1992 $2.9 billion. More than 43% mount will fall into the cat- human therapeutics. For the ear human diagnostics are d to reach a level of $525 agricultural products $350 specialties, including chem- evel of $175 million; contam- monitoring $75 million; and nts and reagents $475 mil- *em. Eng.*, 10/12/87, p. 18.).

NGERPRINTING -- A NEW ARK IN FORENSIC G

year, a just decision in ds nay millions of court sts on the proving of a per- entity. Yet, so far a single test to identify individuals xist. In a paternity case, for , a blood test cannot deter- no is the parent. It can only no is not the parent. But now science has received a fool- st on a person's identity k's Diagnostics (German- d), a subsidiary of Imperial al Industries'. ICI America keted in the UK and USA an ation system called 'DNA inting'. The system is 100% and simple to use. The method is as reliable as a traditional fingerprint.

The Cellmark testing technique is based on a structural phenomenon of human DNA. In many thousands of places, the human DNA chain is interrupted by a series of identical DNA pigments, like periods between sentences. These segments called 'repetitive DNA' have different locations for each person, and this difference allows a genetic 'fingerprint' to be made.

The analyst extracts DNA from blood, semen or other body cells. It cuts the DNA into fragments with restriction enzymes. The fragments are then separated by size by gel electrophoresis. A radioactive DNA probe to repetitive DNA segments is added. The probe binds to the repetitive segments, producing an image or fingerprint of the segments. The DNA fingerprint is unique for each person. If a drop of blood is found at a crime site, it may be used to help prove or disprove a suspect's involvement.

Initially, Cellmark will market assay systems for paternity testing. In such testing, the child, father and mother must each be tested, as half of the child's DNA pattern is linked to the mother's DNA pattern and the other half to the father's pattern. Costwise DNA paternity testing may be cheaper than the conventional paternity testing but will be definitely more reliable.

Later on Cellmark will market tests for several other uses. It sees uses in court cases involving forensics, paternity and immigration; as well as other possible applications, such as determination of animal pedigree, authentication of cell lines used for research and exploration of genetic diseases. (*Chem. Wk.*, 10/14/87, p. 14). (*Chem. Wk.*, 10/21/87, p. 11).

AGRICULTURAL BIOTECHNOLOGY RESEARCH CENTRE ESTABLISHED BY CIBA-GEIGY (USA)

Ciba-Geigy (USA) sees a good future in agro-biotechnology. It has therefore established an Agricultural Biotechnology Research Centre at Research Triangle Park, North Carolina, USA. By 1989 it will spend over $12 million for developing this Centre for genetic engineering and other techniques to improve major crop plants. (*Chem. Wk.* 10/7/87, p. 19).

STURDY PROTECTIVE SYNTHETIC CO-ENZYME DEVELOPED FOR INDUSTRIAL CATALYSTS

The chemicals and pharmaceuticals industries now may have a cheap precision tool at hand, with which to synthesize valuable drugs and chemicals in future. The tool is a catalyst adapted from nature and comprises two parts that interlink. One will not work without the other.

The part that converts chemicals into one that are more valuable is a natural enzyme. The other component is called a co-enzyme. Without it, the enzyme will not do its job. Enzymes have enormous potential for catalyzing reactions that lead to commercially important products but their use in industry is limited for the reason that the co-enzymes on which they depend are so unstable. Enzyme systems catalyze chemical reactions at lower temperatures and

pressures than other forms of synthetic catalysts, and perform the reactions with more precision.

But enzyme cannot survive industrial processes, particularly those where the pair are tied to a solid support over which the reacting chemicals are flushed.

Researchers at the Cambridge Biotechnology Centre have overcome the problem by developing sturdy synthetic co-enzymes that mimic the task done by natural ones. The project was financed by the British Biotechnology Directorate and the ICI. Chris Lowe and his colleagues have developed hardy synthetic coenzymes from molecules originally intended for use as textile dyes.

The researchers tagged the dye molecules to chemical groupings that perform the function of a coenzymes. The hybrid molecules proved tough enough to partner the enzymes as catalysts in industrial processes. They have now secured a patent for the procedure. The researchers are hopeful that the coenzymes can be manufactured cheaply and in any required quantities. The research team believes that the synthetic coenzymes will lead to a wider application of enzymes in industry. (*New Sc.,* 5/21/87, p. 37).

A DATA BANK OF DNA & RNA NUCLEOTIDE SEQUENCES ON THE HORIZON

Intelligenetics (Mountain View, Calif.) will administer Gen Bank --a computerized data bank of the order of nucleotides in DNA and RNA --following the award of a $17.2 million five year contract from the Department of Health & Human Service (HHS).

So far many complete DNA sequences have been deduced both in the laboratory of Molecular Biology (UK) and in other laboratories, these sequences adding up to several million nucleotides. The largest single DNA molecule sequenced so far is that of Epstein-Barr virus, containing about 172,000 nucleotides. This may look large, but consider the human genome with its several thousand million nucleotides. Amazingly, plans are afoot to sequence even these.

Gen Bank already contains the order of some 14 million nucleotides from a variety of organisms, including people. That may increase 20-50 fold during the life of the contract, HHS reports. Intelligenetics will distribute information for subscribing institutions and researchers. (*Chem. Wk.*, 10/14/87, p. 30), (*New Sci.*, 5/21/87, p. 62).

COMMERCIAL SUCCESS MILESTONES FROM BIOTECHNOLOGY

Biotechnology, in which until recently was long on promise but short on products, has begun to deliver in the last year or two. Among the commercial milestones of success of recombinant-DNA or hybridome research and technology are:

* Human insulin (Eli Lilly) netting $100 million in one year.
* Human growth hormone (Genentech, Kabi Vitrum, Sweden).
* Hepatitis-B vaccine (Merck, Sharpe & Dohme, Smith Kline-RIT).
* Interferon-alpha (Boehringer Ingelheim, West Germany).
* Amylase Enzyme (Novo Industri).
* Veterinary vaccine (from Akzo Pharma, Netherlands).
* More than 100 diagnostic test systems using monoclonal antibodies from a number of companies.

These successful biotech products have racked up impressive returns for their producers. T three biotech money spin 1986, estimates an Europea try observer, were Eli Lilly wit $100 million from its r-DNA Akzo Pharma with about $6 from its vaccines and mon and Genentech, with $44 from its human growth hor

It is evident that a hefty c the biotech market is towards human health ca recent survey of publicly helc companies, the Arthur You Technology Group found tha the companies catered prir the diagnostic area and 33 devoted largely to therapeu rest were composed of sup the biotech industry itself agricultural companies (6 other types (6%).

In terms of end-use, biot ducts will garner about $50 worth of US sales in the ceutical area next year Consulting Resources (Le Mass.), $60 million in ag $40 million in chemicals an lion in food and miscellane egories. The company forec the expected total of $605 US biotech sales next year to $19.8 billion by the year 2 In 1987, total US sales o products are predicted to neighbourhood of $400 m

Among companies exclusively to biotechnol front runner in total reven income in 1986 was Genen nearly $134 million in reven $16 million in net income.

While the small biotech nies have been moving al large chemical and drug co have been staking out their ritory in biotechnology. Not this involved joint research a licensing and distributior

n the biotech startups, but essive efforts of their own.

nto and Du Pont, for have become major fac- otechnology research and nent as reflected in their pending and hiring. Du otech R & D budget has over to $40-50 million per nge from $4.5 million/year e 1970s.

key participants -- either r through equity in smaller research partnerships such chemical giants as ace, American Cyanamid, ustries, Eastman Kodak, ICI, Ciba-Geigy, Hoechst rmany), Gist Brocades nds), Mitsubishi Chemical itomo in Japan. Besides er pharmaceutical compa- ive in the biotech field, Smith Kline, Bechman, La Roche, Merck, Johnson n and Bristol Myers.

RVIEW ON THE PRESENT OF MONOCLONAL DIES (MAB'S) IN HNOLOGY

clonal antibodies (MABs) t a significant segment of ology. According to the con- European Business Assoc- e MAB's market can be nto four sectors:

l laboratory diagnostics for hing from pregnancy to r. The sector had worldwide of $65.6 million in 1986 and ected to rake up $820 million s by 1990 AD.

cation of other biotech pro- such as interferons. The t $9.8 million in 1985, will to $115 million by 1990.

o diagnostics: From essentially no sales in 1985, diagnostics can expect to soar to $164 million by 1990.

4. Agricultural and veterinary uses.

A large number of companies are now developing or selling monoclonals. Among them are Hybritech (a Lilly subsidiary), Cantocor (Malvem, Pa), Damon Biotech and Britains Celltech. A host of Japanese companies, such as Asahi Chemical Industry and Dainippon Pharmaceuticals are active as well.

The maturity of monoclonals is indicated by recent plant expansions. Celltech, for example, already has two 1,000 litre monoclonal antibody fermenters in operation and is completing installation of a 2,000 litre fermenter. Plans are in hand for a 10,000 litre unit.

For the near future, monoclonals are likely to be confined to the diagnostics and purification applications. Nevertheless, Celltech and American Cyanamid have a joint agreement to develop monoclonal products for cancer imaging and therapy. (*Chem. Wk.*, 9/30/87, pp. 32-35.).

PROGRESS REPORTED IN FERMENTATION ROUTE FOR BIOTIN

Nippon Zeon (Tokyo) and French biotech company Trangene (Strasbourg), which have been cooperating since 1985 to develop an efficient fermentation route for biotin (Vit H), recently reported some promising advance in a paper presented to the 60th Annual Meeting of the Japanese Biochemical Society.

Researchers from the two companies report that they have expressed the b10-b gene of Bacillus Sphaericus, a bacillus that produces high levels of biotin in E. coli, and that they have achieved improved biotin synthesis rates. Biotin sold as a supplement for human and animal nutrition and in cosmetic preparations, commands an annual market of $100 million per annum. (*Chem. Wk.*, 10/21/87, p. 48).

THE NATIONAL CANCER INSTITUTE (USA) FUND RESEARCH ON DNA PROBES FOR SPOTTING A PRE-DISPOSITION TO CANCER

The use of DNA probes to assess an individual's inherited risk of developing certain forms of cancer is the aim of a $1.8 million, 5-year research contract to Integrated Genetics (Framingham, Mass) from the National Cancer Institute. The probes would analyze the DNA from blood samples for the presence of specific segments of DNA known as 'gene markets', that have been shown to be closely linked to defective genes that are believed to be related to cancer. (*Chem. Wk.* 10/21/87, p. 48).

SULZER BIOTECH SYSTEMS -- A NEW ENTRY INTO BIOTECHNOLOGY

Sulzer Biotech Systems, Woodbury, N.Y. is a new entry into the rapidly growing biotechnology field, primarily by way of supplying advanced process equipment for reaction and recovery as well as systems engineering design and construction. The company is a subsidiary of Sulzer International Group.

A TEST KIT TO DETECT SALMONELLA IN MEAT

A test that lets consumers, restaurants and institutional food services detect salmonella contamination in meat has been developed by Diversified Diagnostic Industries,

Morago, Calif. The test, called Chik Chek, depends on detection of an endopeptidase produced uniquely by Salmonella. The user soaks a cotton swab in meat juice to be tested, adds a synthetic substrate of the enzyme, and then applies a reagent that reacts with the hydrolysis product. A pink, purple colour indicates presence of salmonella.

The $5.00 kit includes instructions on how to cook contaminated meat to ensure killing salmonella. It contains enough materials to do three tests and will be available nationwide in USA shortly. This kit should be of particular interest in our vast country, where Salmonella contamination is rampant. (*C & EN,* 7/6/87, p. 20).

A HEALTHIER SAKI ON THE HORIZON IN JAPAN

Underlining medical statistics which show that moderate drinking helps to reduce heart disease, Japan's reputed Saki brewer Yaegaki Shizo Co. has recently produced a new blend, which it claims will do exactly that.

The traditional Japanese alcoholic beverage is made from rice. The new product called Zeky Seishun (meaning the sequel of youth) looks slightly pink, because it is fermented with an expensive red saki mould which colours the liquid. In other brands, a yellow mould is used to ferment the rice.

The red mould contains an ingredient which discourages the build-up of cholesterol in the blood -- one of the causes of hardening of the arteries and heart disease. The company has devised a biotech process that permits commercial production of the red mould at low cost. The company has received good response and expects to 200,000 bottles a year. (*Guardian,* 6/1987, p. 8).

In Brief....

* Fermenta has completec of three fermentation plan Australian group Burns P The deal, worth $100m. fermentation companies F Re and Roferm in Italy, F Holding Co. in the US a menta's interest in partiali companies in Egypt anc Korea. The three antibiotic are expected to show a tur over Skr700m this year.

Fermenta's president a executive Bertil Holmbe mented that the divestitur eliminate considerable loss at the same time releasing strengthen the share-equit

OIL FIRED TRAY DRYING SYSTEMS
-- Is Drying your bottleneck?
-- Does High Drying Cost worry you?
RELAX : WE HAVE THE SOLUTION

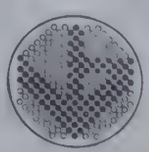
Introducing

Oil Fired Tray Drying Systems

* Fully automatic, oil fired design
* Low Drying Cost
* Larger Production rates
* Caters upto 500 Trays at a time
* Suitable for temperatures between 40°C to 220°C in clean air models
* Efficiency over 82%
* Can be connected existing driers.

ALSO OFFERED

-- **Oil Fired Thermic Fluid Heaters from 1,00,000 k.cals/hr to 10,00,000 k.cals/hr.**
-- **Also Coal/Husk/Wood fired systems upto 15 lakh k.cals/hr.**
-- **Oil Fired Boilers in the range 150 to 550 kgs. of steam per hour exempted from IBF**
-- **Industrial Drying Ovens in all capacities**
-- **Waste heat recovery Boilers and Hot Water Generators in all capacities.**



VINOSHA
BOILERS PVT. LTD.

204, Chandan Chambers, 138, Modi Street, Fort Market, BOMBAY 400 001.
Telephone Nos. 261515, 262061 **Grams: VINOSHA** **Telex: 011-76004 SAIR IN**

Now Available Regularly

JAPAN LIKE QUALITY

ORTHO DIANISIDINE BASE

(Fast Blue B Base)

Export Enquiries Are Solicited

CONTACT:

Chemical Industrial Corporation

288, Samuel Street, Vadgadi, Bombay - 400 003
Phones: 322303 * 342754 * 322511

For Your Requirements Of:

Fursemide I.P.
Diazepam I.P.
Chlordiazapoxide I.P.
Sodium Bromide I.P.

CONTACT:

SPICES INDIA

5, Mody Chambers, Narsi Natha Street, Bombay - 400 009.
Tel.: 321063 / 347255

PERFUMES
For Detergent Cake, Oil Soap and Agarbatti Manufacturers
FIRST TIME IN INDIA

DIPHENYL OXIDE

Against China Quality with 15% Modvat Benefit

Ifd. By VIKRAM ENTERPRISE - CHHATRAL, (NG)

Office: A-13, Mrudul Park Soc., Part II, Sola Road,
AHMEDABAD - 380 061 (Gujarat)
Phone: 475236

For Alok Gum Brand of Genuine Imported

Gum Arabic
Gum Accacia

Contact:

ALOK CHEM CORPORATION

406, Goradia House, P.O. Box No. 13048
100/104, Kazi Sayed Street, Bombay-400 003
Phones: Office: 320518/326390, Resi: 5610002/5124231, Gram: "GUMSAGAR"
Distributors for North India: M/s. J. CHEM ENTERPRISES
3, New Rajdhani Enclave, Vikas Marg, New Delhi - 110 092
Phones: Office:2241262, Resi: 2240072, Gram: "CARMECEL"

SOLE DISTRIBUTORS FOR

SODIUM METHOXIDE 30% SOLUTION IN METHANOL

(SHORTLY INTRODUCING IN POWDER FORM)

For Your Requirement Please Contact:

tl trade link

5/363, Mangaldas Building, Trikamji Ghia Marg, 2nd Floor, BOMBAY - 400 002.
Phone: 297718 **Resi.: 473310** **Gram: 'POLOSIGHT'**
TELEX: 4258 PTK IN

Chemicolour

For your imports of:

SORBITOL 70% USP	PARAFORMALDEHYDE	THEOPHYLLINE ANHYD!
DEXTROSE MONO/ANH.	LACTOSE BP/USP	PHENOL BP/USP
ORANGE OIL	PENTAERYTHRITOL	SOYALECITHIN
TARTARIC ACID BP/USP	SODIUM FORMATE	MICROCRYSTALLINE W.
MONO SODIUM GLUTAMATE	BASIC CHROME SULPHATE	HYDROGEN PEROXIDE
DI PHENYL OXIDE	SODIUM BICHROMATE	SULPHADIAZINE B.P.
MANNITOL	EPHEDRINE HCL/PSEUDO	SULPHADOXINE B.P.

Please contact for most competitive rates

CHEMICOLOUR INDUSTRIES LIMITED

C/o. BASF INDIA LIMITED
Maybaker House, Sudam Kalu Ahire Marg, P. Box No. 19153, Bombay - 400 025
Cable: KEMIKOLOR Phone Nos. 4930103/0703 Telex: 11-71223 CI

luidised Bed Systems for Anaerobic iotechnology in Waste Management*

H. VEERAMANI,
Hindustan Dorr Oliver Limited, Bombay.

SYNOPSIS

tter understanding of the principles of the anae- conversion processes in recent years, the con- digesters applied for municipal wastewater have undergone numerous modifications. ave lead to several novel bio-reactor configu- suitable for industrial process wastewaters s from food processing, distillery, pulp/rayon, mical, fertiliser and other allied industrial pro- generating medium/high strength aqueous naerobic biotechnology has recently emerged le alternative to conventional aerobic treatment y owing to low power and nutrient requirements ntials for energy recovery as bio-gas. This views recent developments and typical appli- f Dorr Oliver's fluidised bed ANITRON system.

UCTION

ical wastewater treatment can be regarded as e largest controlled application of mixed culture ganisms in the service of man and significantly the discharge of pollutants to the receiving hese processes function as aerobic, anaerobic c systems for the break-down of the organic the effluent. Anaerobic process for the treat- ndustrial effluents is gaining global interest and erged as a viable alternative to conventional rocesses. Global developments in anaerobic ology have enabled a better understanding of bial conversions and process configurations.

obic biological processes decompose the in an atmospshere free of oxygen and conse- equire significantly less energy unlike the aer- esses which are relatively power intensive for rable degree of waste stabilisation. In addition, ic conversions will produce a valuable by- as biogas (methane), by recovering the bio- l energy potential of the organics in the waste Other benefits include low nutrient demands, mass yield, high degree of waste stabilisation (70-95%), as well as flexibility for intermittent and seasonal operation since the anaerobic bacterial activity can be preserved for long periods. Some of the current limitations relate to the slow growth rate of the methanogenic bacteria requiring a long start-up time and misconceptions concerning applicability to shock loads and the influence of environmental factors like temperature, nutrients and presence of toxic substances and limited documentation of the performance of full scale installations. Nevertheless, the advantages of anaerobic treatment far outweigh the disadvantages and they offer significant operating benefits over the aerobic processes.

resented at the 'BIOTECHNOLOGY SEMINAR' organised ess Plant and Machinery Association of India, at Bombay.

ANAEROBIC PROCESSES

The decomposition of organics by anaerobic processes is an exceedingly complex phenomenon involving a wide variety of anaerobic and facultative bacteria for the bio-conversions. Generally, anaerobic stabilisation is regarded as a three-stage process comprised of hydrolysis, organic acid formation (Acidogenesis) and methane fermentation (Methanogenesis reactions). The biochemical energy potential is substantially recovered (85-90%) as biogas and the balance utilised in cell production as well as dissipated as work energy. The methanogenic reactions are usually regarded as rate controlling owing to the slow growth rate of the methanogens and sensitivity to environmental factors. The recognition of the large differences in the growth and behaviour patterns of the acidogens and methanogens have resulted in diphasic concepts of anaerobic treatment. The segregation of the acidogenic and methanogenic stages operating under the desired optimum range of environmental factors would significantly improve the performance and stability of the total process.

The active biomass solids produced during the anaerobic reactions must be retained in the system to achieve high treatment efficiency. A significant advance of environmental biotechnology is the recognition of the concepts of Solids Retention Time (SRT) and Hydraulic Retention Time (HRT) which together determine process efficiency. SRT is the fundamental design parameter controlling process stability and sludge production while

HRT controls equipment sizes. The segregation of the roles of SRT and HRT during bioreactor operation have led to a number of competitive proprietory reactor configurations with high SRT to promote biomass retention and low HRT to give compact equipment. The suspended growth reactors retain the microbial biomass in suspension whereas the biofilm is attached to supporting medium in the fixed film immobilised cell reactors.

The newer reactor configurations are very compact and designed for very high SRT/HRT ratio with .ne retention of active bio-mass in the system. There are numerous reports of anaerobic processes for the treatment of industrial process wastewaters -- food, dairy, pharmaceutical, chemical, petrochemical, starch, oil, distillery, slaughter-house, piggery, sulfite/kraft pulp mills, tannery and textile besides sanitary sewage.

The fluidized bed reactor has been extensively studied over a wide range of wastewater characteristics and reactor load levels besides fundamental aspects relating to kinetic parameters like growth constants of anaerobic bacteria, substrate removal rates and biomass yields. These reactors can be operated at high organic loading rates and achieve very high BOD removal efficiency. Although relatively new in biological wastewater treatment, several full scale plants are in operation in Europe and North America for both anaerobic as well as aerobic treatment of industrial wastewaters. A design basis for fluidised bed system for waste water treatment can be formulated by combining the hydraulic model for the fluidisation of the media with a model for biofilm kinetics. In addition, treatability studies for specific wastewaters would also give base-line data for process design of commercial size plants.

ANITRON BIOREACTOR

The ANITRON system is a highly efficient compact anaerobic wastewater treatment process which utilises a hydraulically fluidised bed of media on which a fixed film of microbial growth occurs. It is suitable for handling various biodegradable industrial and municipal wastewaters. ANITRON system profitably recovers the biochemical energy potential of organics in the effluents as 'BIO-GAS' suitable for use as fuel. Thus a liability can be effectively translated into an asset through by-product energy recovery as biogas.

Some of the salient features of this system are listed below:

* Provision of high SRT with minimal HRT in the ANITRON system significantly reduces the reactor volume compared to other suspended and fixed film bioreactor configurations.
* High biomass concentration gives high effic the bio-conversion processes.
* Produces low amounts of excess bio-mass
* Reactor is vertical and requires much less floc
* System exhibits excellent process stability withstand high organic/hydraulic loading vari also has the unique ability to recover after sho adapt to changes in influent characteristics
* Energy requirements are substantially low pared to conventional aerobic treatment pr and can achieve significant energy savings treatment scheme combining anaerobic and treatment stages.
* ANITRON reactors can be designed for ope single phase units combining acidification a anation as well as for two-phase operation reactors in series.
* Other benefits of the system include savings ent demands.

TECHNOLOGY ADOPTION AND TYPICAL APPLICATIONS

The basic technology pertaining to the A system has been developed by our principa United States and is being adopted by HDO to requirements. HDO has demonstration ANITH gas generation systems in continuous operation three years now and successfully handling industrial process wastewaters and developed riate design criteria.

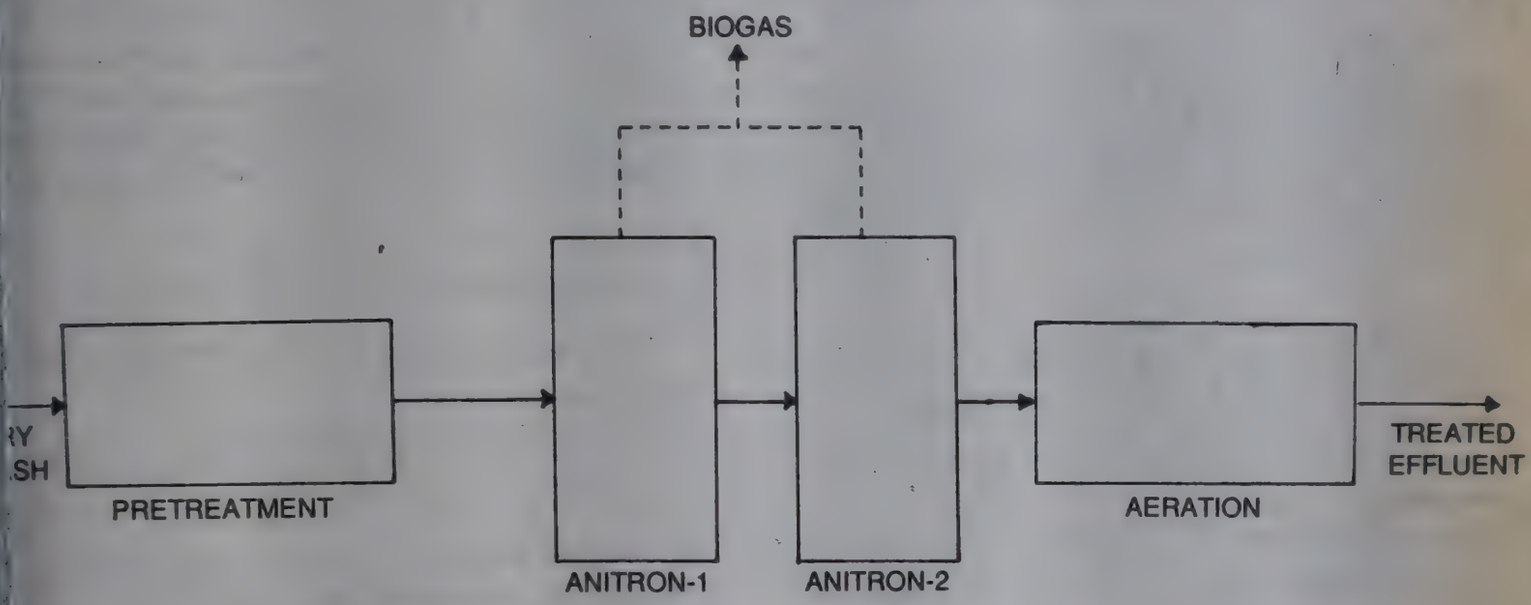
The relevance of anaerobic biotechnology strial wastewater treatment in this country is i by two typical high strength process effluents spent wash from molasses based alcohol pl black liquor discharged by mini-paper mills below 30 TPD) based on straw or bagasse pul characteristics of these effluents are listed b

Parameter (mg/l)	Distillery Spentwash	Black L (straw/ba
pH	4-4.5	9-1
Colour	Black	Blac
SS	5,000-10,000	1,000-4
TDS	75,000-1,00,000	10,000-4
BOD	35,000-50,000	4,000-1
COD	75,000-1,00,000	12,000-3

of the high concentration of the organic con- in distillery spentwash a dip[illegible]c system with on of the acidogenic and meth[illegible]ogenic stages te reactors would give optimum treatment effi- he environmental conditions (pH, temperature) y for each stage can be easily maintained by ised bed reactors operating in series. These ed cell reactors are particularly suited to staged as no bacterial separation is required between

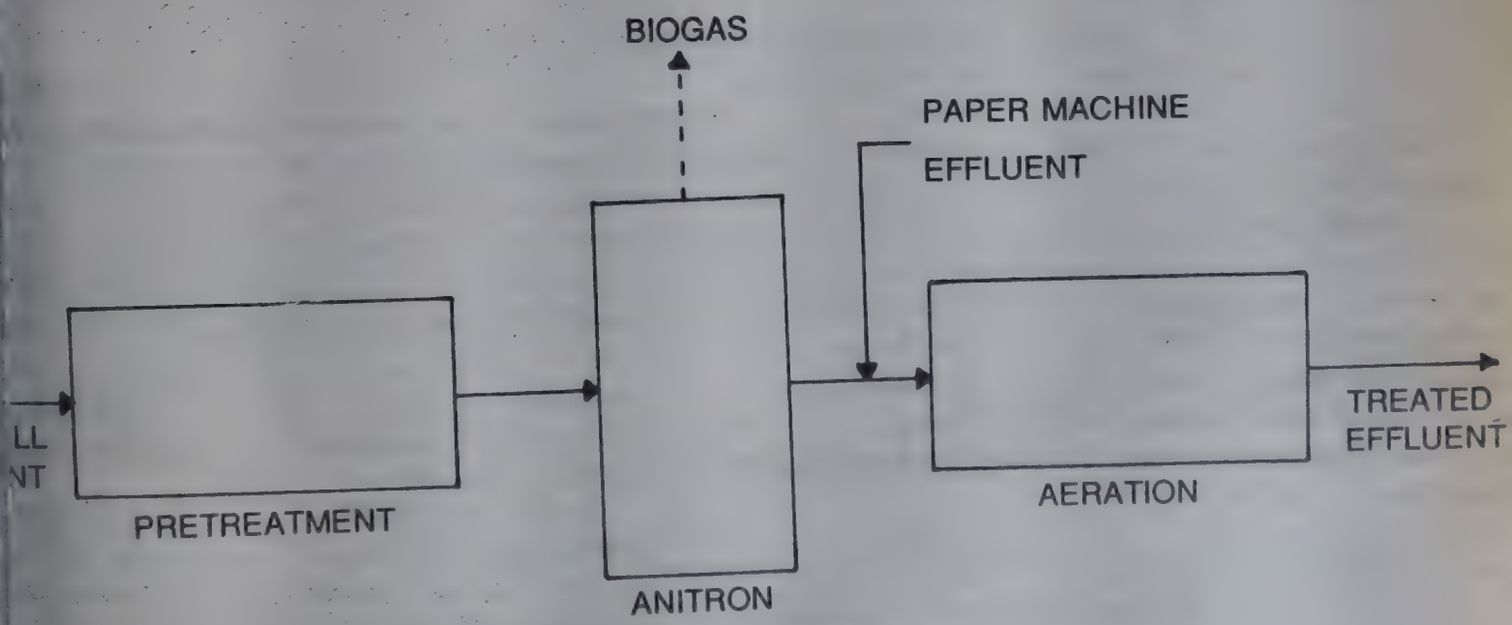
-1 depicts a treatment scheme suitable for dis- ntwash incorporating two fluidized bed anitron for the acid forming and methane generation The biogas generated would contain 65-70 per cent methane and can be used directly as fuel gas. The effluent can be further treated aerobically by conventional two stage activated sludge process and the final treated effluent will be suitable for irrigation purposes. The overall removal of biodegradable organics will be more than 99.8% per cent. Table-1 gives the results of a typical case study based on extensive pilot plant investigations using spent wash samples from distilleries in Maharashtra/Karnataka.

Mini-paper mills can recover the energy potential lost with the black liquor discharged as an effluent by anaerobic biological treatment procedures. The dissolved carbohydrates can be effectively utilised as the substrate for methanogenesis. The dissolved lignin compounds



(ANITRON ™ : ANAEROBIC FLUIDISED BED BIOREACTOR)

Fig. 1. Block Diagram of biogas generation/treatment system for distillery spentwash



(ANITRON ™ : ANEROBIC FLUIDISED BED BIOREACTOR)

Fig. 2. Anaerobic - Aerobic treatment scheme for effluents from mini-paper mills

being biorefractory in nature would pass through essentially undegraded after anaerobic/aerobic treatment. The pulp mill effluent can be treated anaerobically to recover biogas and subsequently combined with paper machine effluent for further aerobic treatment. A block diagram of a treatment scheme suitable for mini-paper mill effluents is shown in Figure-2. The combined anaerobic-aerobic treatment scheme has several techno-economical benefits compared to conventional schemes. A summary listing these benefits is given in Table-2. The estimates are developed for a paper mill producing 25 TPD of straw/bagasse soda pulp suitable for making printing and writing grade of paper. The tangible benefits of anaerobic treatment would include substantial savings in operational costs of the total effluent treatment systems.

HDO proposal for commercial plants is the outcome of extensive research and development efforts towards a viable scheme for handling mini-paper mill effluents. Effluent samples from straw and bagasse based paper mills were used for developing the base-line data and for scale-up criteria.

TABLE-1
ANITRON SYSTEM FOR DIPHASIC TREATMENT OF DISTILLERY SPENTWASH

Alcohol Production, L/D	: 30,000
Spentwash	
Flowrate, M^3/D	: 450-500
Temperature, °C	: 90-100
pH	: 3.5-4.5
Pretreatment - (Cooling and pH Adjustment)	
Temperature, °C	: 35-40
pH	: 6-7
Anaerobic Treatment Stage I - Acidogenesis	
Stage II - Methanogenesis	
BOD Removal, %	: 90-95
COD Removal, %	: 75-80
Biogas yield, M^3 Methane/Kg COD	: 0.3-0.35
Methane, %	: 65-70
Calorific Value, $Kcal/M^3$	: 5800 (65% CH_4)
Equivalent Coal, T/D	: 20-25
Steam Potential, T/D	: 90-100
Normal Steam Demand, T/D	: 75-80
Aerobic Treatment - Two Stage Activated Sludge Process	
BOD Removal, %	: 95-98
Over-all BOD removal, %	: +99.8

* Biogas as energy source can meet normal steam requirement of the distillery.

* Final effluent will be suitable for land application.

Hindustan Dorr Oliver Ltd., is currently exe order for an integrated liquid effluent treatmen a petrochemical manufacturer in Maharashtra. system consists of both anaerobic and aerobic the former includes a ANITRON reactor and section is based on conventional activated process using surface aerators.

Thus a liability can be effectively translate asset through by-product energy recovery (bi anaerobic treatment as illustrated by the typic ples of distillery and mini-paper mill effluents

SUMMARY

The paper presents an over-view of the rece ces in basic principles of anaerobiosis and ments in fluidised bed bioreactor systems for wa treatment and illustrates the tangible benefits robic treatment with energy recovery as biogas ical examples of distillery and mini-paper mill

TABLE-2
ANITRON SYSTEM FOR MINI-PAPER M

Pulp Mill Capacity	: 25 TPD	
Effluent Sources:		
1. Pulp Mill - (A) Digestion (Straw/Baga liquor)		
(B) Bleach Plant		
2. Paper Machine		
Treatment Alternatives:		
1. Conventional two stage aeration for comb effluent.		
2. Anaerobic (Anitron) -- Aerobic with stream tion.		
Relative Features		
Parameter	**(1) Conventional**	**(2) Anitron**
Anaerobic stages	None	
Aerobic Stages	Two	
Power Consumption	100	4
Nutrients	100	5
Excess Sludge	100	2
Area	100	4
Recovery	Nil	Biogas
Over-all BOD removal	: 95-97	
Biogas Yield, M^3 Methane/Kg BOD	: 0.30-0.3	
Methane Content, %	: 65-75	
Calorific Value, $Kcal/M^3$	: 6250 (7	
Equipment Coal, T/D	: 7-9	
Steam Potential, T/D	: 35-40	

* Parameters for (2) using (1) as referenc

TRODUCING FOR THE FIRST TIME IN INDIA
NDIGENOUSLY MANUFACTURED

METHOXYPROPYLAMINE, 3-ETHOXYPROPYLAMINE

OR ANY OTHER HIGHER CHAIN LENGTH ETHER AMINES

WE ALSO MANUFACTURE

FATTY AMINES, POLYAMINES, DIAMINES & QUARTERNARY AMMONIUM COMPOUNDS

CONTACT:

TECHNO CHEMICAL INDUSTRIES

5, Dev Chhaya, 120, Keluskar Road,
Dadar, Bombay - 400 028
Phone: 464351, 453300

Available Either Ex-Stock or From Incoming Consignment in Rupee Payment.

SHIMADZU UV-VIS SPECTROPHOTOMETER: Model UV -- 120 - 02
Single Beam.
MODEL UV -- 150 - 02 Double Beam.
MODEL UV -- 160 Recording Spectrophotometer (CRT display)
MODEL UV -- 240 Graphicord..... (Recording Spectrophotometer)

INFRA RED SPECTROPHOTOMETER IR -- 408

SHIMADZU Analytical Electronic Balance
SARTORIUS Electronic Analytical Balances (Cap. 120 grams, 200 grams, 300 grams)
SARTORIUS Mechanical Analytical Blances. Preweighing System.
METTLER ELECTRONIC Analytical Balance Models Available AE-166, AE-160, AE-200, AE-163)
BROOKFIELD VISCOMETER

M.J. EXPORTS PVT. LTD.,

(Import Department)
113, Jolly Maker Chambers No. 2,
Nariman Point, BOMBAY-400 021.
Tel: 2020644
Cable: SYNEXPORT
Telex: 114677 MJAY IN
112478 MJAY IN

Rishabh Brand Refined Menthol Crystals

OIL ANISE
--- Pharma Grade
OIL CLOVE
--- Pharma Grade
OIL MENTHA/PEPPERMINT
--- Pharma Grade
OIL MENTHA PIPERITA
--- Tooth-Paste Grade
OIL SPEARMINT
--- Tooth-Paste Grade
OIL LAVENDER 40-42%
--- Perfumer Grade
OIL PATCHOULI
--- Perfumer Grade

ALSO

Iso Eugenol Linalol Natural Geraniol Super And Several Others

Please Contact Manufacturers:

RISHABH

G-22, Lawrence Road,
NEW DELHI - 110 035

In Bombay Please Contact:

Saraswati Enterprises

Phones: 230383/5616582 (R)

- E.D.T.A. ACID 98%
- Di – Sodium E.D.T.A.
- Tetra – Sodium E.D.T.A.
- Ferric E.D.T.A.
- Mono – Calcium – – Di – Sodium E.D.T.A.

and other Salts of E.D.T.A.

ASSOCIATED CHEMICAL INDUSTRIES

AVAILABLE IN READY STOCK

SULFAMIC ACID

SULFAMIC DESCALANT GP & SR GRADE

CATALYST LCP

Mfg by:

M/s. The Dharamsi Morarji Chemical Co. L

Also Available From Ready Stock:
GLAUBER'S SALT – TRI SODIUM PHOSPHATE
SODIUM SULPHIDE FLAKES, POTASSIUM PERMANGAN
SODIUM META SILICATE, SULPHURIC ACID – 98 & 7
POLYETHYLENE WAX, RESORCINOL, SODIUM SILIC
FLUORIDE & OTHER TEXTILE CHEMICALS

Please Contact:

M.D. VORA & CO.

Stockists for:
M/s. DHARAMSI MORARJI CHEMICAL CO. LTD.
Amrit Nivas, 165/2, Lohar Chawl, Bombay - 400 002
Phones: 317023/251737

For Your Requirement of:

2,4 DI NITRO ANILINE
6 BROMO 2,4 DI NITRO ANILINE
2,6 DI BROMO PARA NITRO ANILINE
2,6 DI CHLORO PARA NITRO ANILINE

Contact Manufacturers:

DIVYA CHEMICALS

Room No. 8, 'C' Block, 2nd floor, Bhangwadi,
Kalbadevi Road, BOMBAY - 400 002
ne: 311199/253616/297052/310112 Gram: DIVYACHEM, BOMBAY-400 002

ASK FOR S. N. QUALITY PRODUCTS

Gum Arabic — **Gum Tragacanth**
Gum Accacia — **Sizing and Printing Gum**
Guar Gum — **Paper Gum**

Please Contact:

M/s. SARABHAI NEMCHAND

55, Kazi Sayed Street, Mandvi, BOMBAY - 400 003
'hones: Office: 325191, 349288 Residence: 295351, 828 2148, 8116949
Gram: PANCHASARA

For Your Requirements of:

'ER SALTS (Re-introducing)
'ER SULPHATE
'ER CHROMATE
'ER ACETATE
'ER NITRATE
'ER CARBONATE

CURY SALTS:
CURIC CHLORIDE
CURIC OXIDE

MERCURIC ACETATE
MERCURIC SULPHATE
MERCURIC IODIDE
MERCURIC THIOCYANATE
MERCURIC NITRATE

LEAD SALTS:
LEAD ACETATE
LEAD PEROXIDE
LEAD NITRATE
LEAD CHLORIDE

LEAD PHOSPHATE

TARTARATES:
SODIUM POTASSIUM TARTARATE
AMMONIUM TARTARATE
SODIUM BITARTARATE
&
ALL TYPES OF CHROMATES
PHOSPHATES, STRONTIUM SALTS ETC.

Please Contact Manufacturers For Competitive Prices:

L. S. Chemicals & Pharmaceuticals

10, Kotkar Industrial Estate, Off: Aarey Road, Goregaon (East), Bombay - 400 063
.: Factory: 692391 Resi.: 625735

FOR YOUR REQUIREMENTS OF

SODIUM LAURYL SULPHATE

30% LIQUID & 90% POWDER

SODIUM LAURYL ETHER SULPHATE

30% LIQUID

TOOTHPASTE, COSMETIC, PHARMACEUTICALS
& DETERGENT INDUSTRIES

CONTACT MANUFACTURERS

INTERMEDIATES & CHEMICALS

B-77/1, M.I.D.C., BHOSARI, PUNE - 411 026
PHONE: C/o. 83766, 84157

Tel: Resi: 4121250/412
Off: 273596/46
Fact: 27 Collem,

For Quality Aroma Chemicals like Geraniol, Citronellol, Citronellal, Ex Ci nella Oil, Geraniol Ex Palmrosa, Linalool, Methyl Benzoate, Isoamyl alco Esters and other aromatic chemicals

Contact Manufacturer:

Sugandha Enterprises

Office:
369-B, Vagdevi,
Senapati Bapat Marg,
Mahim, Bombay - 400 016
Telex: 76521 SVPC IN

Farm & Fac
Pikle V
C
Goa - 403
Telex: 194-261 SVP

Alpha Naphthylamine

(Special)

(Beta Content Less than 0.5%)

Manufactured By:

Heerasons Chemicals Pvt. Ltd.

A/7, Maroli Udyognagar,
Maroli Bazar - 396 436
Dist. Valsad,
GUJARAT
Phone: 62, Maroli.

Chemical News from Abroad

T SELLS UK PAINTS S FOR $239M

t UK has reached an ag-
to sell Berger, Jenson &
n to Williams Holdings
worth £133m ($239m).
e is a major step towar-
oechst group's exit from
rative paints business.
aining units in Austria
are also likely to be

ist UK's chairman and
cutive Arno Baltzer des-
he deal as beneficial to
parties. For Hoechst,
the company in a posi-
oncentrate on its indus-
nts activities. Earlier
it prepared for the move
rger's industrial paints
was spun off as HPG In-
Coatings Ltd, 75 per
und by Hoechst UK and
ent by Herberts, the gro-
tings subsidiary. Baltzer
d its markets as a good
rea.

Vest German giant's UK
y has been actively ex-
its interests in the Eu-
ndustrial coatings field.
r it bought Societe de
Le Mans from Renault
e and the UK's Ault &
which has interests in the
efinishing sector.

asis, Hoechst says, is on
high added value ind-
aints, automotive paints,
refinishing and specializ-
strial paints. The com-
eady has a high ranking
in the West European
purpose coatings busi-
According to UK consul-
formation Research, in
ative vehicle refinishing
Vest European demand is
d to grow from 170,000 ton in 1985 to 205,000 ton in 1990 and 263,000 ton in 1995.

Hoechst UK will lose a large chunk of its £587m turnover with the divestment of Berger. But Baltzer said the company is looking to make a UK acquisition to boost sales, probably in the industrial chemicals field, some time next year.

According to Hoechst UK, the deal "will release resources which will provide an even stronger base for the development of our Hoechst high chem strategy, with increased local production and the flexibility to make further acquisitions." In the short term, some £5m is to be spent on expanding the company's surfactant operations.

Williams Holdings, meanwhile, moves up to the UK's second largest player after ICI in the decorative paints business. The purchase of Berger, which turned in profit before interest and tax of £2.1m on sales of £289m in 1986, gives it a 22-23 per cent share of the market against ICI's 30 per cent. Williams entered the market only six months ago when it acquired Crown Paints from Reed International for £285m.

MTM UNVEILS CdF JOINT VENTURE

MTM of the UK and France's CdF Chimie have revealed their plans for an organic specialities and intermediates joint venture. The deal involves MTM's Marchem unit and CdF Chimie's Loison subsidiary and the new company will have annual sales of over £40m ($72m). In a related move, MTM is to acquire CdF Chimie's majority stake in Italian fine chemicals producer Asap for £3m.

The deals, which are expected to be approved and completed on December 23, mark a major step in the internationalization of MTM. The company has long sought European manufacturing bases and, according to Marchem's managing director Peter Norton, is keen to expand into the US.

According to MTM, Marchem and Loison will be an excellent fit. The two units both produce benzyl alcohol, benzoyl chloride and sodium benzoate which are used in food and pharmaceutical manufacture. Total capacity for these three products will be around 30,000 ton/year, making the joint venture a major global player in these markets. Loison will add benzcyl peroxide to the joint venture's portfolio, while Marchem will contribute benzyl cyanide and derivatives.

The strengths of the new company will be enhanced by MTM's business and marketing skills and Loison's low-cost technology which will, in due course, be applied at Marchem's Widnes site, the partners say. Loison, based near Lille, made profits of £3.2m on sales of £15.3m in 1986, Marchem, with turnover of £17.9m, posted profits of £1.73m.

Under the terms of the joint venture deal, CdF Chimie will pay MTM £1.5m to equalize both parent's asset contributions. MTM is contributing assets worth £6m while the French group is providing £3m. CdF Chimie also has an option to purchase MTM's 50 per cent stake in the joint venture between 1991 and 1986. Marchem, with turnover for management and services relating to the creation and operation of the new company.

Milan-based Asap makes a range of intermediates for the flavours and fragrances and dru-

gs industries. The company operates from a plant completed in 1985 and expects sales of £7-8 m for 1987 and up to £10m for 1988.

EEC PROBES AID TO CdF CHIMIE

The EEC commission is asking the French government to justify its payment of aid worth FF10bn ($1.8bn) to the chemicals group, CdF Chimie. A payment of FF6-7 bn was made during 1985-86 and a further FF3 1bn has been earmarked for 1987-88.

Under the rules of the Rome treaty, state said, except in certain circumstances, is forbidden. These include boosting industry in developing areas or regions with high unemployment, promoting the extension of intracommunity trade, and in restructuring operations which benefit the community as a whole. A commission source said France cannot justify aid in the first two cases, but may do so in the third. But the view of the French government and CdF Chimie is that the state — as the owner of the company — was acting as a responsible shareholder by boosting equity and reserves. The government denies that the cash injection was state aid in the terms defined by the Rome Treaty.

GARDINI MOVES IN AT MONTEDISON

Ferruzzi Boss Raul Gardini has taken over as chairman of Italy's Montedison and given a clear indication that his aim is an in-depth integration of the two companies.

In the short term, Gardini is looking for stability at the chemicals company and all the leading managers remain in their

The only major casu the present events in Mar mberni. He was forced t his post as Montedison c and is expected to relinq chairmanship and vice-p cy of US-based subsidiar emont and Himont, resp Gardini is likely to assu these role.

HUNTSMAN MULLS TH BUYS SHELL PP UNIT

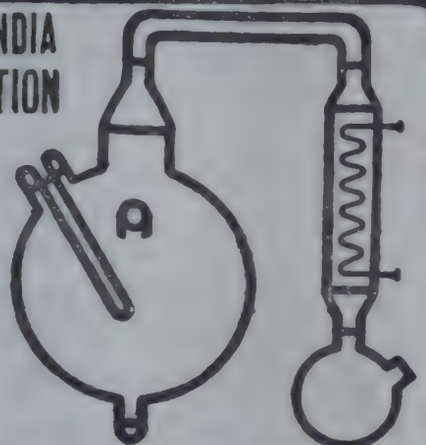
Huntsman Chemical seeking a downstream p ne joint venture in Thail is moving into the polyp business with the acqui Shell Oil's 140,000 plant at Woodbury, New US.

Speaking in Bangkok Huntsman chairman Jon man Jr said there is a g ture for the company in due to the rapid growth chemical and plastics He added that he would soon to have a joint there.

A possible partner c the Srithepthai group, polystyrene manufactur thermoplastic com Huntsman already provi nical assistance to th and Srithepthai's vice-p Woradej Limthornbenjap the two companies operate more closely in especially in the import materials.

Mitsubishi Corp of Huntsman's partner in a joint venture, currently 2,000 ton/year styrene thepthai and plans to this to 10,000 ton by 19 Huntsman-Mitsubishi cor building a 400,000 ton/ rene plant at Baton Rou siana on a site acquire Hoechst.

EXCITING NEWS FOR...
CHEMICAL INDUSTRIES
NOW AVAILABLE FOR THE FIRST TIME IN INDIA
50, 100, 200Lit ALL-GLASS DISTILLATION and REACTION UNITS
WE MANUFACTURE
- ALL GLASS DISTILLATION AND REACTION UNITS UPTO 200L AS PER YOUR SPECIFICATION FROM IMPORTED FLASK
- HCL ABSORBERS, CASCADE COOLERS ETC
- VISIBLE FLOW GLASS PIPELINE, HEAT EXCHANGERS, TEE, BENDS, COLUMNS, TEFLON GASKETS, METAL FLANGES OVF TYPE.
- QUICK FIT TYPE INTERCHANGEABLE LABORATORY GLASS APPARATUS, INSTRUMENTS AND APPLIANCES.
- HIGH VACUUM GAUGES, MERCURY MANOMETER & SWITCHES.



LELE'S ALWAYS THE FIRST
- In 1939 Late Dr. S.R. LELE, world known glass Technologist Started Industrial & Engg. Apparatus Co. P. Ltd. to produce Borosilicate glass.
- 1963. This Company was reformed under the name of Borosil Glass Works Ltd. to produce corning Brand 32 expansion pyrex type glass.
- In 1968, he Started Silicaware P. Ltd. to manufacture custom made apparatus and instruments with the aim of import substitution.
- And now, SILICAWARE offer these 100L & 200L Glass units

SILICA WARE (P) LTD.,
54-C, CHOTANI ESTATE, PROCTOR ROAD, GRANT ROAD, BOMBAY-400 007.
PHONE : 367442, GRAM : LELESIL BOMBAY : MADRAS

HYDERABAD: Mr. VINAY KUMAR
Vinay Scientific Plot No. 7 P&T Colony Behind R.R. Lelle HYDERABAD-501507.
MADRAS: Mr. K. VAIDYNATHAN
M/s Project Engineering Service Pl. No 10 1 2nd Loop Str. Kamaraju H.B. Colony MADRAS-600 086 Kanagapuram.

UNIT 2
92/B, Nandesari Industrial Estate, Nandesari Dist. BARODA PHONE : Nandesari 60383
Baroda city office : 322382, Resi: 320167

sman has also recently a 50-50 Taiwan-based nture, Huntsman Pacific al Corp, with Grand Paci will build a 25,000 ton/- plant at Kaohsiung.

ls of Huntsman's deal ell are sketchy, but a new y, Huntsman Polypropy- orp, has been formed to the Woodbury plant. an says it is committed cing the plant's costs, and ng efficiency and quality. ts part, Shell underlined mitment to PP production US and said the company focus attention on plants co, Louisiana and Sead- xas. Norco has a capacity ,000 ton/year and uses Paso technology. Seadrift opylene, a joint venture n Shell and Union Car- roduces 80,000 ton/year Shac (Shell higher olefins ts) and Carbide's Unipol ogy.

Woodbury plant is around s old and uses Shell tech- Estimated capacity for d copolymers is 140,000 r.

TO BOOST ANIMAL H

h Chemicals major Akzo ed to move into the top ropean veterinary product icturers with the acquisi- the animal health busi- f Gist-brocades. Negotia- etween the two companies ll in progress and estima- ggest Akzo will pay bet- 25-30m.

o plans to integrate the ocades business into its t International division e deal is complete. A mer- ll create a business with vide sales of around n.

ording to Gist-brocades, its animal health business is too small to operate independently. It specializes in veterinary antibiotics and vaccines and sales in 1986 are estimated at $24m.

Intervet, with worldwide sales of some $70m in 1986, has been growing by around 13 per cent/-year since 1980. On average, the market has grown at 6-7 per cent/year, but Akzo's business has benefited from rapid expansion of the major European markets in France, West Germany and the UK.

The Akzo unit is also very strong in the US where it ranks in the top two producers of vaccines for the poultry industry. The company also produces pig vaccines and says the Gist-brocades business will complement existing product lines.

An enlarged Intervet will operate throughout the EEC, the US, Australia and Mexico. Employees will total around 1,000, with over half employed outside the Netherlands. Research and development will be concentrated in the Netherlands, UK and US.

According to UK analyst John McDougall of Wood Mackenzie, the European animal health market — including animal nutrition — is worth around $2.2bn/-year. Leaders in the field include Rhone-Poulenc, Hoechst, Bayer, Coopers and Solvay.

AIR PRODUCTS IN FULL BID FOR ANCHOR

Air Products, the US industrial gases and chemicals group, has made a bid for full ownership of speciality chemical concern Anchor Chemicals. The offer, of 638p per share, values the company at £25.88m (46.66m).

Last month Air Products acquired a 29.5 per cent stake in Anchor, a move which the UK group described as unwelcome. However, following extensive discussions between the two companies the Anchor board is now recommending shareholders accept the bid.

The UK group posted sales of £32.6m in 1986, with pre-tax profits of £1.55m. Products include epoxy resins and curing agents.

Reliance
JERRYCANS & BARRELS
FROM 20 LETRES TO 100 LETRES CAPACITY
An Ideal Storage System, widely used in chemical, Pharmaceutical, Food & many other industries.
A guaranteed protection to your precious product.

RELIANCE PLASTICS
11-A, Unique Industrial Estate,
Opp. Jawahar Talkies, Mulund (W), Bombay 80.
Phone Off.: 5618131·Fac.: 5619994. Resi.:5613186

Chemical Markets Abroad

PE SPOT SHORTAGES PROMPT TALK OF "BLACK MARKET"

Polyethylene supply worldwide is now critically tight and as spot sales in Europe have dried up allegations of a virtual "black market" for imported product have started to emerge. There are also rumours that converters and other buyers are themselves reselling small lots into the market at inflated prices.

Talk that European producers have been deserting customers in order to supply at higher prices overseas is hard to verify, however. Most say that although the rocketing export prices look attractive, long-term supply stability obliges them to fulfil obligations to European customers. And the current PE prices spiral looks set to keep better momentum in Europe than overseas.

It is the case, however, that product is desperately tight, with producers "running just to stand still." One major producer revealed that orders placed in October have still not been met and a number of small and medium-sized customers have been put on allocation.

Producers have found it easy to achieve price increases of 5 pfennig/kg per month on most PE grades and in West Germany, linear low, high and low density PE film prices for December are practically uniform at around DM-1.80-1.85/kg.

With most of Europe's ethylene cracker problems solved — ROW's G6 unit was back up in Germany last week — and polyethylene plants running flat out, there is growing concern among customers that any supply interruption could throw the market into turmoil.

Very few imports are reaching Europe at present, with most export material instead finding its way to the Far East market at some $1,100-1,150/ton. Meanwhile, limited spot tonnages from South America have been fetching $1,200-1,250/ton cif Rotterdam. This source is expected to dry up even further following a problem at Copesul's Rio Grande do Sul cracker in southern Brazil, now running at half capacity. This will reduce supplies of PE to Brazilian trader Interbras. The cracker is due to be fully operational again by December 22.

Bulk quantities of product from Enichem's new Priolo lld-PE/hdPE unit are not in evidence on the market.

On the continent, traders report that it is easy to get DM-1.85-1.90/kg for tankerloads of product and over DM2/kg for smaller lots.

With no new capacity due on stream and debottlenecking work estimated to add only 60-70,000 ton to capacity, producers are expecting to continue a price push which could take levels beyond DM2/kg by next April. But there is increasing disquiet among consumers over the inflated PE price levels and the consequent healthy margins being enjoyed by producers.

LdPE cash margins stand at DM440/ton, for the fourth quarter based on a DM1.63/kg price average, giving a return on investment in excess of 20 per cent and "the highest margins since '79 at least," according to David Glass of consultant Chem Systems.

For hdPE, return on investment is also over 20 per cent, with margins at DM430/ton, which is higher than in 1979.

Polypropylene is returni most 50 per cent on capit margins at DM750/ton fourth quarter.

As far as polystyrene i cerned — "at current pri doesn't even cover the c styrene," Glass says. "Bu over 90 per cent of PS ou Europe is integrated, that of concern to most peo fact, taking PS and styren gins together, producers a ing more than ever befor

HELM LOSES LIBYAN BUSINESS

West German trader K Helm has lost methanc monia and urea busines Libya because it allegedl Libyan methanol to South in breach of an embargo.

Although the trader has ed to comment on the cas informed market sources company shipped a cargo 15,000 ton of methanol th Africa. This was ap shipped via the Suez Can though the stated des ex-Marsael Brega, was Sp Portugal. Dutch trader meanwhile is expected to Helm's former business.

AMMONIA SHIPMENTS EXPECTED TO GROW

Long-haul ammonia t tation and LPG shipping ments are expected to g nificantly over the bala this century according to by Distribution Consultin vices. Earnings have rec creased, reflecting impro sel utilization, and the co tion of gas vessel conti the hands of a limited nu owners. New buildings, could not be justified a fe ago, are now under co tion. But rates for all siz increase further and stal justify reinvestment.

trade in ammonia has onsiderably over the ears, the report obser- since 1985 some 7-9m monia has moved inter- . Of this, about 75 to nt moved by sea. Re- t-ups in Saudi Arabia ria, and a Trinidad unit tream in 1988 will add ton/year to seaborne

projects under discus- outh America, Australia, Indonesia and in the Gulf may require long g voyages before load- ell as lengthy delivery This will increase ave- orne transit distances the long term will im- et utilization, the report

27m ton of LPG moved 1986 and shipments ast to grow to over 40m e end of the century. er, as in many shipping available LPG tonnage ently exceeded demand ers of gas vessels have s achieved acceptable their investments. But gas fleet is small and ce between supply and particularly sensitive, tes at times have fluc- t of proportion to under- nges in tonnage de- n some cases, LPG and cargoes compete for ships.

s fleet, which is close to oyment, can be divided dicated" or long-term tonnage and "indepen- nage, available on the ket. Ammonia accoun- s than half the indepen- sel volume, and any in- this trade has to be at nse of LPG or buoyant nical trades. This, the report predicts, will undoubtedly put pressure on gas freight rates.

EEC STILL RUNNING BIG TRADE SURPLUS WITH GULF

In the wake of the recent commitment from the European council not to take any trade liberalization steps with the Gulf cooperation council (GCC) states that would damage the petrochemical sector, new statistics from the free-trade lobby may be of diminished interest.

However, certain groups are still keen to say that Europe's petrochemical sector has been "crying wolf" over the issue of exports of chemicals from the Middle East to Europe. A wider economic and political cooperation issue is at stake, it is claimed, in attempting to forge tariff-free entry for goods exchanged between the two blocs.

And the issue is not dead yet. Insiders have suggested that duty-free entry for Middle East chemicals into Europe could still be on the agenda in Brussels at a future date. Meanwhile, the following statistics were supplied by Brussels-based Comark Europe.

The EEC ran a positive balance of trade with the Gulf markets last year to the tune of Ecu 2.4bn ($2.9bn). This compares with a negative balance of trade between Japan and the Gulf region of Ecu10.3bn and an even balance between the GCC and the US.

Petrochemical exports from the GCC to the EEC have geared up substantially from the Ecu44 m-worth in 1984 to Ecu393m in 1986. After the start up of six projects in Saudi Arabia. But the year on year increase from Ecu345m in 1985 has been small and all units are now up and running. Instead of a flood of Saudi chemicals to

Silica Gel Blue Indicating Type

Silica Gel White Non-Indicating Type

(Available in all Mesh sizes and packings including cloth bags)

Contact Manufacturers :

VEENA CHEMICAL INDUSTRIES

G-22, IInd Main Road.

Ambattur Industries Estate.

MADRAS-600 058.

Phone . Off : 654150 Resi. : 610 380

Europe, two thirds is marketed outside the EEC and capacity worldwide has become very tight.

Comark Europe points out that although the figures look significant, polyethylene imports from the GCC to Europe, for example, represent only a 3-4 per cent penetration of the total market, estimated at 6.5m ton for 1987. Furthermore, GCC polyethylene exports in the first five months of 1987 are down around 35 per cent on the comparable 1986 period.

In 1986, GCC chemical exports to the US were Ecu242m and to Japan, Ecu107m. But Comark observes that arguments that the EEC is taking more than its "fair share" of GCC petrochemicals should be considered against the broader background of the large export market the GCC provides for EEC industry generally. Nor, the report says, does the "fair share" argument consider strategic factors such as long-term access to petroleum and petrochemicals.

Comark notes that in 1986, Ecu22.2m, or 6 per cent, of a total Ecu355m of EEC petrochemical imports from Saudi Arabia received GSP duty-free treatment. While GSP quotas have been technically raised, implementation has become automatic, rather than discretionary. As a result the amount of Saudi petrochemicals imported by the EEC without duty has diminished.

COMPUTER AIDS CHEMICAL SHIPPERS

Lloyd's Register of Shipping (LR) has developed a new computer programme, **Chemship II**, which could help shipowners, characters and builders decide which chemicals can be carried safely in their vessels.

The programme details around 1000 bulk liquids and information is updated regularly. By keying in a set of parameters such as tank design, a list of chemicals cargoes which the ship is capable of carrying can be produced. The system can work the other way, so that by defining a list of chemicals to be carried or stored, builders or port authorities can ascertain details relating to tank designs and materials which should be used in the construction of tanks and pipework.

Since the ratification of Marpol 73/78 Annex II in April this year, all chemicals carried at sea have had to be assessed for pollution as well as safety risks. Keeping up-to-date with new entries and continually changing information in the International Maritime Organization's (IMO) bulk chemical and international bulk chemical codes, parent documents for Marpol, has become increasingly difficult. **Chemship II** should simplify this and the production of cargo lists for ships. LR estimates an enquiry which would have taken three days to complete by hand can now be done in half a day.

The complexities of processing IMO information causes many organizations considerable difficulty. At a recent IMO meeting in London, Jacob Stolt-Nielsen, a member of Intertanko's executive committee said: "IMO should concentrate on implementing and enforcing regulations, not on making changes even before some requirements enter into force.

"Amendments to the codes and conventions either recently accomplished or under way are so numerous that normally-staffed shipowning companies cannot keep up with them," he said. He cautioned the IMO about shipowners' concern over the diminishing returns for e ditional piece of informa

SABIC PLANS EXPORT DRIVE INTO CHINA

Saudi Basic Industri (Sabic), the Saudi stat group, says it is plannin port 340,000 ton of worth some $65m to the Republic of China next

Ibrahim Ibn Salamah vice-chairman and manag ector, made the annou during a meeting with a Chinese trade delegatio bic's Riyadh headquart said the company was cc to supplying petroch plastics, fertilizers and a of other products to Chinese companies in 1

This year, Sabic's e China are expected 320,000 ton valued at $43m, including urea, glycol, linear low and h sity polyethylene.

A price increase for tall

The Newport Div. o hold Chemicals will incr price for tall oil rosins 2 per cent/lb, to 23 pe effective Jan. 1. The p crease is a reaction to market demand and tig plies, a company sp says. Reichhold's move a similar price hike b Camp and unofficial 2 p price increases by W Arizona Chemical and Gulf. Overseas demand has picked up significan cent weeks, industry sou because of a shortage o gum rosin, which comp TOR. The Chinese r have instituted 30-40% tion programs for gum r Japanese buyers have b ticularly interested in p U.S. TOR.

In the European Market

ha prices have drifted $151-153/ton in a quiet as Europe waits for the of the Vienna Opec

ng continues flat in the rket in the run up to as. Ethylene prices have $460-480/ton with an of supply in Europe ex- following news that G6 cracker was to start est Germany. While the n market remains quiet, maintenance in the US tened supply and forced with 19 cents/pound ng quoted.

vide range of propylene rom $370-395/ton is re- n extreme buyer and sel- ideas as both parties st quarter negotiations. re expected to start tal- DM590/ton claiming that st planned cracker main- completed and tradi- slack new year demand, supply will be available pot market. But produ- oking for a minimum of ton, believe cracker clo- the end of Q1 at DSM v in the Netherlands and Finland coupled with erivative demand should ces buoyant.

butadiene business has ncluded and prices are t $600-620/ton.

ty in the xylenes market n virtually non-existent es still holding at $240- for virgin grade and sol- ne $5/ton lower.

ylene has proved to be lacklustre. Traders are orting prices of around 0/ton, but little business n done.

orthoxylene market, pro- are hoping that prices egin to firm a little as the f the closure of two plants, including Total's unit in France. Business is currently being done at $280-285/ton, up $5/ton on last week, but levels are expected to rise in the new year with enquiries expected from Iran.

Toluene levels have steadied at $215-220/ton but an expected increase in demand from the gasoline pool has so far failed to materialize. Producers are, however, expecting demand to pick up early next year in West Germany for low lead fuels.

Limited spot styrene business has been reported and T1 prices are steady at $1,200-1,210/ton cif. Although trading is thin, prices could begin to firm if there is any pick-up in demand, as less than 5,000 ton of product is reported to be available in Rotterdam. However, demand after Christmas is still expected to be weak. T2 material is steady at $1,270-1,280/ton.

With severe shortages of methanol on both sides of the Atlantic, prices have surged in Europe to $156-162/ton for T2 material and $130-140/ton cif NWE for T1. Technical problems at one of Methanor's Delfzijl plants in the Netherlands and a recent 20,000 ton shipment from Europe to the US have tightened spot availability. Additionally, interest from chemical producers has offset lack of demand from gasoline blenders. New US contract prices are expected to be quoted at 50 cents/gallon ex-plant.

Manufacturers of

ACETAMIDE
ACETYL CHLORIDE
N-N'DIMETHYL ACETAMIDE

PACKAGING UDYOG
(MAHARASHTRA) PVT. LTD.

Office : 130, Cotton Street, Calcutta-700 007, Phone : 39-9377

Fact. : Plot No. 64, Vithoba Rural Development Industrial Complex,
Lohop, Tal. KHALAPUR, Dist. Raigad, Maharashtra.
71/C, 'Sunder' Govandi Road, Chembur, Bombay-400 071
Phone : 5513940

News from the American Market

To Japan's soda ash producers: Open up trade

Following a long investigation, the Japanese Fair Trade Commission (JFTC) has found that the country's four soda ash producers have not broken any trade laws but have engaged in restrictive trade practices that are worthy of concern and could be considered problematical. As a result, the JFTC has publicly asked domestic soda ash producers to discontinue restricting imports of soda ash. "We feel vindicated," says John Andrews, president of the American National Soda Ash Corp. (ANSAC), an export association that has spent several years calling for Japan to open up trade with U.S. soda ash producers. The JFTC report confirmed that the charges made by ANSAC were valid, Andrews notes. U.S. soda ash producers currently supply about 17% of the Japanese market, but if allowed to compete fairly, U.S. producers could double their sales to Japan from the current 240,000-tons/year level and raise their market share to 30-35%, ANSAC estimates. With demand for soda ash in the U.S. stagnant, "the future of the business is to have a high-profile export business," says Andrews. U.S. soda ash exports in 1987 are expected to exceed the 1986 record level of 2 million tons, roughly 25% of total sales.

Monsanto will expand in maleic anhydride

Monsanto's Specialty Chemicals Div. will increase its world wide maleic anhydride capacity by 80 million lb/year, to 290 million by mid-1989. Although Monsanto revealed plans to expand its facilities a year ago, the company's board of directors only recently approved specific plans to add 55 million lb/year at the 170-million-lb/year Pensacola, Fla., facility and 25 million lb/year at Newport, U.K. Denka Chemical and Ashland Chemical also are working on boosting maleic anhydride capacity in the U.S. Producers are operating plants at close to 90% of capacity, and demand is expected to keep growing by 6%/year in the U.S. and 12%/year in the Far East. Monsanto is one of the world's largest producers; its output accounts for 20-25% of the market.

More ethylene capacity for Exxon

Various efficiency improvements made during a recent maintenance shutdown have enabled Exxon Chemical to raise ethylene capacity at its Baytown, Tex., olefins plant by 200 million lb/year, to more than 1.6 billion lb/year, the company says. A plant turnaround at Exxon's Baton Rouge, La., complex last year achieved similar results, which means that Exxon has added 400 million lb/year of ethylene capacity during the past two years, increasing capacity at the two sites to 3.2 billion lb/year. Major investment was not involved in the recent expansions. The Baytown and Baton Rouge plants could be expanded to produce 4 billion lb/year, says K. N. Robertson, Exxon's vice-president for basic chemicals. That 25% capacity increase would require additional investment, but Robertson points out that it still could be accomplished "at a fraction" of the cost of a grass-roots plant.

Trying to return to a quar benzene price

Exxon Chemical, a U.S. producer of benzene lieved to be attempting suade its contract custo accept fixed prices on a ly, instead of monthly, While long-established rope, quarterly prices hav abandoned in the U.S. i years. The purpose of a to quarterly contract prici dampen monthly price prompted by spot market tions and to benefit benze vative producers, whic price their products on terly basis or would pref so. Exxon is thought to fered customers that do cept quarterly prices a option. "There's a 50:5(of our coming out ahea this arrangement, so I'c take my chances on mor cing," says one custome tioning why Exxon thinks ket needs more stability executive of a benzene points out that benzen have been static, at 95 p gal, for five months. Benz tract tabs soared as $2.25/gal. in a spe driven price spiral ea year. A major styrene cer source suggests that pany might accept a price of 95 per cent/ga $1.10-1.15/gal. "We' skeptical the quarterly work," he says. Other benzene producers have lowed Exxon's lead.

Technological Scene Abroad

interactive computer

nteractive computer pro-
hat was designed to help
ating chemists develop
blends and meet emis-
regulations in now avail-
qualified users of Dow
cal's glycol ethers and
ated solvents. The first
m available through the
ntial service simulates
ell Thin-Film Evaporo-
Drawing from a data
f nearly 200 commonly
solvents, the program
ts evaporation rates for
t blends and makes ap-
ate corrections to account
riable temperatures and
e humidity. The program
tes other parameters and
ts the mixture composi-
during the evaporation
s, information that is not
obtained in a laboratory.
ew service, the Chem-
Evaporation Rate Ser-
s available from a main-
at Power Computing
s).

wants heat-exchanger
als

U.S. Dept. of Energy's
Idaho Operations Office
Falls) in seeking pro-
for the development of
ressure heat-exchange
ns. DOE's objective is to
ce current performance
cantly by using ceramic
sites or other materials.
roposals must involve ap-
ons employing advanced
ials that will be available
sting within the text five
and yield a nominal en-
saving of 10^{13} Btu/year
national basis. Funding of
$1 million is expected to
ailable for Phase I awards.
A formal solicitation by DOE is scheduled to be available by next month.

An international partnership in diagnostics

An international team has been formed in diagnostic products. Gen-Probe (San Diego) has signed a letter of intent with Chugai Pharmaceutical (Tokyo). The agreement calls for Chugai to receive exclusive marketing rights in Japan for Gen-Probe's diagnostic kits for infectious diseases and cancer. In return, Chugai will fund Gen-Probe's development of assays for viral infections and cancer.

Approval for a biologic that fights a rare emphysema

A biological drug that treats a rare, inherited protein deficiency that can lead to early development of a form of emphysema — known as alpha$_1$--antitrypsin - deficiency-related emphysema — has been approved by the Food and Drug Administration. The drug, Prolastin alpha$_1$-proteinase inhibitor, will be marketed by Cutter Biological, a business unit of Miles (Elkhart, Ind.). Alpha$_1$-proteinase inhibitor is an enzyme made by the liver; it inhibits an enzyme, known as neutrophil elastase, that helps destroy bacteria in the lungs. However, when alpha$_1$-proteinase inhibitor is missing, neutrophil elastase may attack connective tissue in the lungs, breaking down the elasticity needed for effective breathing and possibly leading to emphysema. Cutter derives alpha$_1$ proteinase from human plasma, though it heat-treats the product during manufacturing to reduce the risk of transmitting such infections as AIDS and hepatitis. The drug will be administered to patients deficient in alpha$_1$-proteinase as weekly injections and is expected to slow the progress of emphysema. Deficiency of alpha$_1$-proteinase occurs in about one of 5,000 people and generally shows up when they are in their 30s or 40s.

Big staffing increases for biotechnology

The biotechnology industry may expect healthy gains in employment, as well as above-average merit increases in salary and increasing use of financial incentives for top performers. So reports a salary survey released by the Industrial Biotechnology Assn. (IBA) in Washington, D.C. Results are based on information gathered from 133 biotechnology companies. The study shows that about 40,000 people are employed in commercial biotechnology, with staffing slated to increase by 44% by June of 1989. Difficult positions to fill, says the study, include biochemical engineers and research managers, as well as patent attorneys and immunoengineers. In contrast, positions in oversupply include PhDs, biologists and organic chemists. Merit increases averaged 6.9% this year and are projected to jump 6.7% next year, says the study. To promote productivity, 60% of participating companies use cash incentive compensation plans and 50% use bonus plans. Indeed, one company authorizes its vice-presidents to write checks at any time for up to $1,000 for employees demonstrating superior achievements. The study, says IBA, gives biotechnology companies a way of measuring their salary structure and compensation programs against those of others in the industry.

Biotechnology

ICI DEVELOPS NOVEL APPLICATIONS FOR FM 21SP

ICI has developed novel applications for its FM 21SP membrane electrolyzer originally designed for chloralkali production. Researchers at the UK chemicals major have developed a number of organic synthetic processes using the electrolyzer. ICI is now in a position to offer hardware and contract electrochemical research, a spokesman claims.

"The process was developed internally and we are now using it on a commercial scale," he said. ICI is using the electrolyzer to produce a number of key intermediates including tetra-fluoroxylene for agrochemicals, 4 hydroxyphenyl acetic acid for pharmaceuticals and a lubricants intermediate dimethylsebecate.

ICI claims that the electrolyzer can be used for the producduction of other chemicals. "The main advantage of FM 21SP is the ability to carry out syntheses that are more selective than using conventional reagents," according to the spokesman. Moreover, the process is more cost effective than conventional means, he added.

The UK chemical major is now in a position to offer a laboratory package for preliminary investigations and the hardware for pilot scale and commercial scale plants. ICI is now responding to approaches it has received from chemical firms wishing to synthesize intermediates electro-organically.

FM 21SP was launched earlier this year by ICI as a successor to its established FM 21 chloralkali membrane cell. The newer cell repeats the same basic design concept of the original cell but with minor adjustments. Power consumption was improved by about 10 per cent.

Other improvements include increasing the thickness of the metal sheets on the electrodes, raising the robustness of the cell. Electrodes are available in pressed lantern configurations or flat plate according to process requirecents in a number of metal and metal alloys.

SOVIETS SYNTHESIZE ZIDOVUDINE

Scientists at the Soviet academy of sciences are claiming to have developed a process to to synthesize azidothymidine (AZT, or zidovudine). They are now planning to develop the process for commercial scale quantities. Scaling up, however, is very difficult according to a Wellcome spokesman. He denied that the UK firm was negotiating with the Soviet Union.

The synthesis developed at the institute of molecular biology of the USSR academy of sciences has been reported in a number of Soviet publications. The Soviets are also hoping to develop Aids test kits and a vaccine. Scientists at the Ivanovsky institute of virology have introduced several Aids genes into smallpox vaccines and tests on monkeys are scheduled within the next few months, according to Viktor Mikhailovitch Zhadanov, director of the institute.

There are reported to be about 140 cases of Aids in the Soviet Union although more than 100 of these are foreigners. The Soviets claim to have developed an Aids test that will cost half the pri conventional tests. Zha claims that test producti the USSR is 2m/year b market demands more 10m/year.

Wellcome, the pione large-scale production Aids therapy is keen to into a dialogue with th viets but claims no appr have yet been made. Th firm has applied for pate all basic markets for th of the drug in treating and has a sales and mar operation that covers the tern bloc including the

HOECHST PUSHES FO INSULIN PERMIT

Hoechst has applied f mediate implementation permit granted by state orities on October 12 company to build sta (Chemtec) of a thre complex for production man insulin using rec ant DNA methods.

Chairman Wolfgang said he is "confident" t company's application approved. Opponents plant can file a co against a second deci the state that ruled in of the Frankfurt c group, but this would lay interim testing of t cess, according to a spokesman.

Led by the local e mental protection grou chst Schnuffler un Ma 140 complaints have be in an administrative against the permit f chst. All but a few, h were declared invali valid complaints must cessed before the stat decision, expected f

er or early January, made.

ETSU INVESTS $ 3M O US FIRMS

-Etsu Chemical, the Ja- chemical major, is plan- invest $ 3m in two "high logy" ventures in the US. mpany will push into levelopment of biotech- and computers.

Japanese firm is to in- 2m in Brooktree Corp, a Diego, California-based hat specializes in design- ntegrated circuits and clients include various se semiconductor mak- nin-Etsu also plans to tie h Brooktree in the future pment of computer gra- and image processing.

-Etsu is also venturing the biotechnology field h its wholly-owned nyl chloride resin sub- Shintech. The firm is e a $ 1m stake in the San based venture capital Ventana Holdings. The is to be used for start mpanies in biotechnology ther fields.

EN WINS BROAD US TITIS B PATENT

gen has consolidated its tis B antigen patent posi- The US patent and trade- office has issued a patent firm covering the manu- e of all hepatitis B sur- and core antigens produ- y recombinant means. This t complements one issued e European patent office months ago.

s strengthening of patents ely to have "a favourable t on the company's finan- position," according to a any spokeswoman. Biogen has no intention of making products itself with the technology covered by the patent but has licensed to Wellcome and Green Cross.

Other products to be covered by the US patent, according to Biogen, include the recombinant vaccines made by Merck & Co and SmithKline Beckman. The patent grants Biogen the right to exclude companies from manufacturing or marketing hepatitis B vaccines and diagnostic kits produced in the US using recombinant methods.

Biogen expects to apply for a broader application for its European patent. The company also hopes that the US congress will close a loophole in process patent legislation. Current legislation allows companies to make products, covered by a US process patent outside the US for import.

Legislation is now pending in Congress proposing to prohibit violation of process patents. There is no clear indication when this bill will be passed as it is part of a larger bill covering trade issues. Observers do not believe that much will be done for the next few months.

Clearly the tightening of the process patent legislation would boost Biogen's claims for royalties. Biogen has already been in discussions with a number of companies with products that are covered by this patent. The company refused to reveal whether or not it has been in discussions with vaccine makers SmithKline Beckman and Merck, or Chiron, the supplier of antigens to Merck.

US sales of hepatitis B products covered by the patent total $ 200m and are expected to grow at about 15 per cent/ year. Jim Vincent, chairman and chief executive officer of Biogen, claims that the company will pick up significant royalties but these will be less than 10 per cent. Biogen has no patent position in the Far East where the hepatitis B market is largest.

Royalty revenues would give the biotechnology firm a much needed boost. Biogen is still reporting losses from its operations. Total revenues for the third quarter rose by almost $ 1m to $ 2.69m and losses were pegged back slightly to $ 6.99m from $ 7.52m in the same period last year.

Similar fortunes were reported for the nine-month period. Revenues stood at $ 9.34m compared with $ 8.37m last year, with losses of $ 19.21m compared with a $ 20.46m deficit for the nine month period last year. Continuing losses were the main reason for selling Biogen's Geneva operation to Glaxo Holdings during the quarter.

RESEARCH GROUPS SEAL AIDS DEAL

Institut Pasteur and the US National Institutes of Health (NIH) have signed an agreement which puts an end to the dispute over which group identified the Aids virus first and, consequently, over the diagnostic test patents.

Last March, US president Reagan and France's prime minister Jacques Chirac announced the issue had been settled. The agreement is retroactive to January 1987 and provides that two foundations will be set up, a "Franco-American Aids foundation." and a "World Aids foundation" funded by 80 per cent of the royalties from diagnostic test licences.

Within these funds, 25 per cent is earmarked for research on Aids in developing countries, while the balance will be divided between Institut Pasteur and the NIH.

The 20 per cent not earmarked for the foundations is intended for the researchers in both countries which identified the Aids virus. Since January 1987, $3.7m worth of royalty fees have been collected and a cheque for that amount has been handed over to the Franco-American Aids foundation.

CELLTECH/ORTHO JV

Celltech has revealed more details of its links with Ortho Pharmaceuticals concerning erythropoetin (epo), the renal failure drug. Celltech is to become a minority partner in Ortho-Celltech, a subsidiary controlled by the US firm. The new affiliate venture will be responsible for epo production at facilities leased from Celltech.

Ortho plans to use epo exclusively for itself and other Johnson & Johnson companies. Ortho and Johnson & Johnson will assume responsibility for negotiating with regulatory bodies for product and manufacturing licences for epo.

EUROPE SETS OUT NORTH SEA PLANS

Europe looks set to ban all ocean incineration of wastes by 1994. This was one of the decisions taken at the two-day meeting of the environment ministers from nations bordering on the North Sea.

Other decisions that will have an impact on the European chemical industry are plans to end the dumping of harmful wastes into the North Sea by 1989, curb the input of dangerous substances into rivers per cent within the next years and halve the inp phosphorus and nitrogen the same period.

Cefic, the federation o ropean chemical industry ciations, still has to m formal response to the me proposals but, accordin sources, is concerned th curbs are being introduc bitrarily without other o being made available.

"We have always been st a ban on sea incinerati cause it is one of the best nologies available. The tion now is what to do wi chlorinated wastes as th an extreme shortage of based incineration capac Cefic official said.

About 100,000 ton of nated waste is incinerated each year, and although are plans to raise land-ba cineration capacity in I there is still likely to be a shortfall. "Cefic will strive operate with the Europea mission to establish new to dispose of chlorinated tes", the source added.

But Cefic is still con that decisions have been before all the question been answered. There is reement on what qua water is to be achieved a the cost for the controls met.

For similar reasons Ce boycott an international rence in Strasbourg this to discuss the River Rhi are urging the organizers sure that there is some sion on what constitutes water quality", the sour

The UK chemical in association has been c complain that UK firms unfairly disadvantaged river dumping ban propo

PRINT DESIGN

News About New Projects

I TO PLAY MAJOR TENGHIZ E

twist has emerged in of the multi-billion trochemicals project at n the Soviet Union news that Italy's Eni- a major participant in rtium.

ears that the state- iemical company, part iant Eni hydrocarbons is been associated with ect from the start but plicably omitted from f participants announ- blaze of publicity by al's Dr. Armand Ham- Montedison.

rmly reinstated by the nion, Enichem has con- nat it will play as big s that of Montedison. pany declined to com- why it was not includ- e announcements.

m considers the Teng- ct to be a milestone in st relations. At $ 5-6 easily the most import- boration between the osing political systems d lead the way towards t improvement in eco- nd political co-opera-

e's largest producer of lene, Enichem will take bility for the produc- marketing abroad of lene from the planned ton/year plant. Mont- ill concentrate on poly- ne.

em has confirmed that arbide Corp of the US as its partner in the There are, the Italian r said, three main reasons for this — the two companies already co-operate in such fields as industrial gases; UCC already has a good relationship with Eni's engineering subsidiary Snamprogetti, which, has had long experience in the Soviet Union and is well qualified to build the PE plant; and because UCC is very well known in the Soviet Union. In partnership with John Brown the US producer is currently negotiating to double high density polyethylene capacity at Kazan and Budyennovsk.

To be located near the town of Kazakhsari in the Guriev region of Kazakhstan, Tenghizpolymer, the name by which the joint venture will be known, will begin production in 1993. The town is situated some 100 km north of the Tenghiz natural gas processing plant, which will serve as the supplier of hydrocarbon raw materials for the joint enterprise. Kulsari is the site of Tenghizneftegas, the Soviet partner in the proposed joint venture.

Tenghizpolymer will comprise two crackers — one fed on 1.2 m ton/year of ethane, the other on 1 m ton/year of wide fraction light hydrocarbons (WFLH) — producing a total of 900,000-1 m ton/year of ethylene. Because of cost considerations these will be dedicated units rather than have built-in flexibility to use either feedstock. Technology for these plants has not been selected.

Enichem will most probably manage the ethane cracker and ME the WFLH unit. As it stands, however, there will not be enough propylene feedstock produced for the 500,000 ton/year PP unit. ME could therefore consider installing a propane dehydrogenation plant within Enichem's ethane cracker but this will be decided after feasibility studies.

Downstream facilities will include 500,000 ton/year polyethylene and 500,000 ton/year polypropylene plants. Other polymers could include polystyrene and PVC, although there are other plans for PVC production in the USSR.

Tenghizpolymer will also produce low pressure general-purpose pipes and high pressure pipes for the oil and gas processing industry, pipeline parts, films with and without adhesive layers for the insulation of the outside pipelines' surfaces, general-purpose films, containers and packaging materials and consumer goods, as well as 1 m ton/year of sulphur. Products will be marketed in the USSR and on the world market. Production capacity of the enterprise will be based on the technological production lines constructed and put into operation successively. Each production line will have "economically substantiated maximum productivity."

Each production line of the fully-integrated complex will end with finished product. Overall output of each line (by finished products) will be approximately as follows: pipes and fittings — 100,000 ton/year, film — 25,000 ton/year, polymer products — 10,000 ton/year. The raw material storage facility should have a capacity for 15 days' supply.

Branches for processing of polymers into pipes, films and other products will be established in various oil-producing

areas of the USSR and outside Soviet territory.

The Soviet side, which will hold not less than 51 per cent in the venture, will provide buildings and installations of general and auxiliary use, land and water rights, development costs, engineering surveying prior to the construction, design documentation and specifications for the buildings, foundations, etc, construction-installation costs, cash in Soviet currency for the formation of the current capital of the project and the replenishment of its fixed assets.

The foreign partners will provide know-how, technology and equipment, design plans and specifications, and cash in convertible currency.

Evaluation of material contributions of each side will be done on the basis of contract prices, taking into account international market prices.

The ministry of oil production has stated that technological process and equipment should be of the most modern and advanced types, incorporating the latest achievement in the field of ethylene and plastics production, water purification and environmental protection. No processes, equipment or products untested in full-scale industrial production are to be used.

Construction of the first production complex, including the first technological line, is planned for the period 1990-1993. Occidental's role in the venture is still not fully clear.

KEMIRA TO INVEST FM 1.2 BN. IN NEW PHOSPHATE MINE

The Board of Directors of Kemira Oy has approved a FM 1.2bn ($ 293.4m) plan to open a new phosphate mine at Sokli, in Finnish Lapland, to supply raw materials to the fertiliser giant's plants in Europe and to export markets. The company will now apply for the necessary permits to open the mine, build a concentration plant on site, power lines and a 364 km. pipeline from Sokli to the port of Kemi, from which the phosphate concentrate will be shipped to Europe.

Feasibility studies to date, Kemira says, indicate that the best economic benefit can be achieved by piping the concentrated Sokli ore to the coast of Finland. The company has decided to start plant design on the three construction projects.

Kemira operates a phosphate mine at Siilinjarvi. This low-grade ore, with a P_2O_5 content of 4 per cent, is concentrated to around 36 per cent P_2O_5 and supplied at a rate of 550,000 ton/year to Kemira's domestic plants.

The new deposit is estimated to contain 117m ton of ore. At 16 per cent P_2O_5 it is a better grade ore. The plan is to mine in the region of 4-7m ton/year of ore and pipe 1.8m ton/year of concentrate containing 37 per cent P_2O_5 to Kemi. The company has its own in-house phosphate production technology.

A final decision on whether to open the mine and construct the concentration plant will be taken after the permits have been issued and the studies completed. These processes are expected to be completed by the end of 1989.

The ore body in Sokli, close to the Soviet border, is one of the largest carbonatite deposits in the world. Its weathered crust constitutes a su phosphate deposit by standards, the company

Kemira will have t that no waste is dum the Nurotti river, whi into the Soviet Unior course of the small riv ged.

Kemira's European are in the UK, the Net Northern Ireland, Denmark and France.

FLUOR WINS CONTR COLOMBIA

Fluor Daniel has won tract to build a new po ene plant for Petroqui lombiana. The latter, a ly-owned producer of P vesting $78m in the n propylene facility to b within its complex at na.

Fluor of Irvine, will provide basic and engineering as well as ment for the 120,000 plant. Union Carbide i ing its **Unipol** PP proc struction of the facilit under way early next completion in the las of 1989.

Piero Di Capua, d operations at Petroqu lombiana, said that pylene feedstock will b ed from the US.

In the long-term, Colombia's state-owne pany Ecopetrol is c setting up a propylen tion unit within one o eries, either at Cartag Barrancabermeja. could make in the n 60,000 ton/year.

Petroquimica Colo also expanding its ex Goodrich-process PV

0 ton/year to 120,000
Completion of this
ue by January 1989.
ide monomer feed-
tained mainly from
quemine, Louisiana

e also plans to set up
lensity polyethylene
ie country. The unit,
apacity in excess of
/year, will be built
olicolsa, the country's
oducer of low densi-
ylene, or by other in-
licolsa, an affiliate of
produces around
/year of ldPE at Bar-
eja. The new plant
signed to make high
low density poly-

a's port facilities
le Petroquimica Co-
to export part of the
the plant. The com-
ooking at the Andean
bean markets as well
s export targets.

N SOUTH KOREA

aniel International has
rded a $5.9m contract
ong Fibres of South
rovide basic engineer-
ther assistance in the
on of a petrochemical
n Ulsan.

nts, scheduled for com-
early 1989, will cost
sing Eastman Kodak's
y, they will produce
n/year of crude tere-
acid, 160,000 ton/year
er grade terephthalic
1 100,000 ton/year of
materials used in the
n of polyester fibres
netic tape.

Sunkyong Engineering & Construction will perform detailed engineering, domestic procurement and construction.

LUMMUS TO BUILD COPENE CRACKER

Lummus Crest's Brazilian affiliate, Setal Engenharia e Construcoes, has been selected by Companhia Petroquimica do Nordeste (Copene) to provide engineering services for a 350,000 ton/year ethylene plant at Camacari, Bahia, Brazil.

The plant will be designed to crack naphtha and hydrocracked vacuum gas oil feedstocks using the Lummus Crest short residence time SRT IV cracking heaters. Setal, working with the Lummus technical division in Bloomfield, New Jersey, will provide basic engineering for the hot section of the plant, while Lummus Heat Transfer Systems in the Netherlands will provide the detailed design of the SRT IV cracking heaters.

Lummus and Setal provided engineering, procurement and construction services for Copene's first ethylene plant in Camacari, which began operations in 1978.

The investment forms part of Copene's $650m expansion plans. These include the expansion of propylene by 160,000 ton/year, butadiene by 40,000 ton/year, and benzene by 80,000 ton/year. A new 60,000 ton/year MTBE plant will also be built. Around 85,000 ton/year of the ethylene will be supplied to the chloralkali and PVC Alagoas complex owned by Salgema.

BULGARIA AND USSR FORM DYES VENTURE

A Soviet-Bulgarian joint venture has been formed to produce synthetic dyes. The new enterprise, Chromogen, will be based at Kostenets, 60 km southeast of Sofia, Bulgaria. It will specialize in the production of a wide range of dyes for textiles, leather, wood and metal. Chromogen will also produce whiteners for textiles, plastics and washing detergents and polymer powders for anticorrosion coatings.

According to Ivan Muradov, deputy minister of the chemical industry of the USSR, the Soviet side will contribute technology, equipment and some raw material. More importantly, the USSR will send its most experienced specialists. Bulgaria will build the new enterprise, supply energy and auxiliary equipment as well as qualified workers.

Develpoing superior edible oils

The application of biotechnology to crop plants to develop edible oils — those used in cooking and processing foods — with improved fatty-acid composition and superior processing and formulation characteristics is the aim of a broad agreement between Du Pont and DNA Plant Technology (Cinnaminson, N.J.). Initial emphasis will focus on development of superior varieties of rapeseed, an emerging major source of edible oil. The companies plan eventually to form a marketing joint venture.

Environment

EEC BACKS COMPROMISE CHEMICAL EXPORT RULES

European Environment ministers have adopted a compromise rule regulating the export of dangerous chemicals. The ministers at the environment council earlier in Dec. supported unanimously a regulation that requires only prior notification of exports of chemicals (mainly pesticides) which are banned or strictly controlled within the EEC.

The new regulations will come into effect 12 months after publication in the EEC's **Official Journal** and will lay down the rule that exporting countries should inform the government in the country of destination when such substances are to be exported to them for the first time.

Stanley Clinton Davis, the out-spoken environment commissioner, has slammed the decision claiming that the move is a total abdication of responsibility. The commission has been pushing for the inclusion of a "prior informed choice" clause which would permit the importing nation to turn down the dangerous chemicals within 60 days of notification.

The commission's declaration that prior informed choice was the only acceptable basis for EEC legislation was supported in principle at the council meeting by Italy, Greece and the Netherlands but all three later chose to support the presidential compromise.

This involves a clause stating that the commission will report on the scheme before 1990 and then every two years. The environment council will also consider the possibility of introducing the choice principle before July 1, 1990.

Clinton Davis had hoped that the council would adopt the choice principle after the United Nations' food and agriculture organisation (FAO) had passed a resolution in its support. "This FAO resolution should nevertheless give us food for thought and is further support for the commission's proposals for the system of prior informed choice in managing the export of dangerous substances", Clinton Davis said.

"It is morally repugnant at any time, but also self destructive in the long term, that we should allow uncontrolled exports of products which we regard as unacceptable within our own frontiers", he added.

"Without a framework of rules agreed at international level, this lethal trade will go on — the profits of a few shareholders come before human life", the commissioner said.

HOECHST ENVIRONMENT PLANS

Hoechst has announced a DM 2.2bn ($ 1.3bn) spending programme for improvements to environmental protection plant and equipment and construction of new facilities over a 10-year period ending in 1996.

The company says it already has projects worth DM680m in the planning, approval or construction stages. The new projects are grouped into four categories: emissions control (DM 850m), water purification (DM 400m), waste incineration (DM 280m), and safety (DM300m). An additional DM370m has been budgeted for miscellane jects and monitoring.

Two of the largest planned include a plant for desulphuriza denoxification of emissi parent company Hoec main coal-fired power Frankfurt and a DM pansion of waste inc facilities at Frankfurt.

Plans for improveme missions control forese diture of DM700m to with German clean ai tion, along with DM recycling of carbon d and gas scrubbing.

The DM110m desu tion-denitrification pl rently being built gineering subsidiary ing an Uhde process active coke instead o lime, will cost DM40m conventional facilities, reduce solid wastes a permitting German ha be used instead of na Hoechst says.

Water purification p clude a new biologic tower for the plant at aimed at reducing disc half against the 1986 reduce salt discharges ing plant for sodium s being built at Frankfu

In the area of waste tion, Hoechst is buil new plants for on-si of halogenated wast planning to widen ca its main incineration Frankfurt to 100,000 from a current 45,00

Infrastructural me signed to improve sa dards include contain ins for contaminated improvements to coo systems, along with m nitoring facilities.

News from Japan

oduction Hits All-time dicating Recovery

naceuticals production irst half of 1987 hit an high of Yen2,285.8 bil- id recorded a 11.8% er the same period of eding year, according to istry of Health and Wel- t seems that production whole of 1987 will also record-high for the se- nsecutive year.

is attributed to the fa- e effects on the industry g from the postpone- the official drug-tariff duction this year as well ne quarterly listing of gs in the drug tariff whi- been conducted on a re- asis. Monthly produc- n January to June 1987 o at the highest levels d with the correspond- ths of the preceding n particular, April and w production topping billion for the first time y.

have been no negative r the second half and e of the opinion that drug industry is headed very and improvement.

ministry's prompt report semi-annual drug pro- in Japan shows that Ja- une production this year Yen2,285.8 billion, an of Yen240 billion from r-before level.

production suffered mi- wth of 0.1% in 1984 and 1985, the first time that as been two straight minus growth affected 16.6% price reduction in g tariff in 1984 and the came prevalent that Japan's drug industry was going through its "winter". Producers thus began to make utmost efforts for enhancing corporate structure so as to minimize the advers effects of the drug-tariff price adjustment which looked likely to continue in the coming years and also started concerted actions for approaching the government to review the drug-price decision mechanism.

Last year, however, production grew by 7% despite the 5.1% drug price reduction indicating an upward trend for drug business.

Japan-U.S.-W. German Data Bases Linked For Information Service

A trilateral information service linking data bases in Japan, the U.S. & W. Germany has been put into operation. The service offering information on scientific and application technology is conducted by a joint corporation established by the Japan Information Centre of Science and Technology (JICST), Chemical Abstracts Service of the U.S. and Fiz Carlsruhe of West Germany.

It links a total of 40 data bases owned by the three agencies which include one data base for comprehensive scientific technology, 19 for chemistry, application chemistry and life science and seven for engineering.

The start-up of this information service is considered not only to help to promote information exchange between Japan and the West but also to avert criticism among Western nations that "Japan is a one-sided importer" of technology information from the West, according to a JICST official.

The service is the world's 1st information-supply business involving Japan and connecting large computers in the different nations and also is on the largest scale of its kind. The service can be accessed by subscribers throughout the world.

It is available from 8 a.m. Monday thru 10 p.m. Saturday. Subscribers are required to pay an initial fee of Yen 7,000 plus charges for the information retrieved. The charge for retrieving about 80% of the data offered by the service is Yen 12-16,000 an hour.

Tokuyama Soda To Move Into Agrochemicals

Tokuyama Soda Co. will branch out into agrochemical business with a new paddy field-use herbicide which is now being subjected to long-term toxicity tests. The herbicide dubbed "NSK-850" has been developed by Tokuyama with the assistance of Professor Takemura of Utsunomiya University.

A chloroacetoamido-type compound with a thiophene ring, it has proved very effective for killing a variety of grasses, particularly difficult-to-destroy ones in paddy fields. In addition, it can exhibit the desired effect with a much smaller amount — one-fifth to one-half that of other equivalents.

The company hopes to begin marketing the chemical sometime in 1993. It intends to increase efforts for R & D to prepare for farm-chemical operations on a full scale in future.

Nippon Kokan Pushing Expansion of Advanced-ceramic Grades

Nippon Kokan K.K., a leading steel maker, is striving to diver-

sify sintered products for engineering parts and push utilization of its HIPs (not isostatic presses) and the ceramic design system it has developed, in a bid to strengthen its advanced-ceramics business.

The company has produced and marketed powders of advanced ceramics such as silicon nitride, high-purity zirconia, high-purity molten silica and electrocast magnesia as well as sinters of titanium dibromide, beta-sialon and boron nitride-based composites. However, a market survey it conducted recently has shown that supply of such ceramics in a sintered state would be more suitable for meeting user requirements.

It is aiming at supplying a wide range of advanced-ceramic parts with high temperature resistance and high strength. It is constructing a pilot plant for such products at its Kawasaki laboratories, while continuing their evaluation. It plans to begin sample shipments of sinter-sialon parts early this year and will also produce sintered silicon-nitride parts by constructing a plant with 50-60-t/y capacity at its Toyoma factory. Alumina, zirconia and mulite parts will be produced when the time is appropriate.

In order to deploy ceramics business on a full scale, the company intends to utilize more than before its data base for materials and manufacturing processes, its evaluation system and ceramics-structure designing system and enhance relationships with customers to keep up with their changing. diversifying needs.

Denki Kagaku To Shift VC Production To Chiba Plant

Denki Kagaku Kogyo K.K. is scheduled to shift within one or two years the vinyl chloride production at its Omi factory to its Chiba factory and Nippon PVC—a joint venture between the company itself and Mitsui Toatsu Chemicals, Inc.

This is because the production cost concerned is higher at the Omi factory than at the Chiba factory and chlorine demand is brisk for use in fine-chemicals production. The company aims at beefing up production efficiency for vinyl-chloride resin from an overall point of view.

At the Omi factory, vinyl-chloride resin is currently produced from acetylene gas derived from carbide and hydrochloric acid produced from chlorine and hydrogen. The production capacity stands at 24,000 tons a year.

Taxation On Naphtha Strongly Opposed By Petrochem. Concerns

The Petrochemical industry is carrying on an aggressive campaign against moves toward imposing a petroleum tax on naphtha. It has begun to pressure political circles to put a stop to the moves.

It is opposing taxation on the grounds that it does not have an abundant accumulation of funds since the profitability of its business operations has been low for a long time and, in addition, there is a fear that the profitability will be depressed by planned construction of petrochemical plants by Asian NICS in the 1990s. It hopes that naphtha will be exempted from the petroleum tax for at least two more years.

Raw-material naphtha exempted from the said fiscal 1986 and 1987 with dustry's campaign in the ground.

There are, however, toward imposing the tax product since the govern likely to run short of petr oil revenue next fiscal y the petrochemical indus beefed up its business p ance.

The petroleum tax is fic duty (taxation rate The related revenue has ally declined due to th sharp appreciation and in crude-oil prices. T revenue shortage in the Account for Oil Alter Taking these into acco government is conter switching the petrole from a specific duty t valorem duty in a bid t ze revenue from this t related development, it planning to impose the naphtha.

About 25 million kl of naphtha is consumed an. The industry will b to shoulder a heavy ta of Yen 50,000 million i valorem duty concerne at Yen 2,000/kl.

Showa Denko To Produ Allyl Derivatives

Showa Denko K.K. is ing a variety of fine c using high-purity ally as raw material.

The company rece nounced that it would multipurpose plants at wasaki and Ohita fact start manufacturing ducts such as allylan allyl methacrylates

New Developments from Japan

Dye-applied Recording ith High Reflectance

Yuden Co. has develop- al recording media hav- flectance of as much as — which is equivalent f inorganic media — by nting optimum mole- signing of cyanine-based dye. The reflectance entional organic media re than about 20%. company is contemplat- ying the new product to cture of compact disks mmable read-only me- . Demand for organic lied recording media is d to increase for use in t consumer optical disks. dye-applied optical di- e been put into practical document filing. company is the first in ld to have developed or- ye-applied optical media reflectance is as high as inorganic media. It coat- new media onto polyme- methacrylate substrates. producing optical disks. ined their absolute re- e, sound - reproducing ies and durability. The e reflectance was found etween 30 and 45%, vary- h the groove structure.

Lense With Far Brighter Made Using PPG's

on Oil & Fats Co. has marketing unique dyeable with far brighter colors employed for high-grade ilters, etc. The filters are using PPG (U.S.)'s popu- R-39" transparent plastics. modifying CR-39 and de- the plastics into vivid colors under an agreement with PPG, the Japanese company has succeeded in dyeing the famous plastics — sold throughout the world as eye-glass lenses — into bright colors with acid dyes, whereas conventional transparent plastics can only be dyed with reactive dyes and so the colors obtained are not bright. Nippon Oil & Fats is the first to be successful in this attempt.

The company intends to exploit the market for the product for use as high-grade color filters to begin with but expand its application field to other optical and electronics uses. It has set the yearly sales target at Yen 1 billion within 2-3 years.

It claims that the new lense can have a very clear and bright color and the color as well as the transparency can be precisely adjusted to specific user needs.

NGK Insulators Develops Three Catalyst Carriers For Cars

NGK Insulators, Ltd. has announced that it has succeeded in the development of catalyst carriers based on cordierite and aluminium titanate for the purification of car exhaust gases.

The new carrier using cordierite comes in two grades, one has a higher strength and vibration resistence than conventional ones, and the other one a finned material for increased surface area. Meanwhile, the carrier using aluminum titanate is resistant to the temperatures as high as 1,700°C. Each of these carriers has a honeycomb molding. The high-strength grade is to be mounted on cars and its mass-production has started at the company's Nagoya Plant. As a source material for the catalyst carrier, cordierite is currently widely used.

NGK Insulators has succeeded in achieving a high density and mechanical strength of cordierite. The conventional cordierite carrier currently available requires the insertion of protection materials on canning (to fill catalysts in metal mufflers in order to safeguard against vibration. The high-strength honey comb makes possible rough canning, and this means a cost reduction to some extent.

The finned honeycomb carrier uses conventional cordierite but has a larger surface area because of the fins set in the square honeycomb cells.

In impregnation, thinner coating of noble metals is enough for them to adhere to the carrier, and this means a decreased consumption of expensive noble metals. It is reported that the impregnation of noble metals is focused on the central area of each honeycomb cell inorder to improve the catalytic effect.

The high heat-resistant honeycomb carrier uses aluminium titanate with a high melting point. The source material undergoes special treatment designed to prevent thermal decomposition. The carrier is resistant against temperatures as high as 1,700°C. Conventional carriers using cordierite are resistant against temperatures as high as 1,500°C. It is thus expected that the new support can also be used in areas other than cars.

New Epoxy-resin Products Said To Have Sufficient Toughness

Sanyo Chemical Industries, Ltd. has developed two types of combination of epoxy resin and curing agents. They are

named TA-1201 (amine-curing type) and TS-900 (acid anhydride-curing type), respectively, and facilitate production of cured epoxy-resin products, which have high degrees of elastic modulus, strength and deflection, thereby being comparatively free from fragility — the most serious defect in cured epoxy-resin products now in use.

When cured, TA-1201 is tough and heat resistant, has strong bonding strength, and can be subjected to cutting. TS-900 in a cured form is strong, colourless/transparent and superior in electrical insulation and light resistance.

Cured epoxy-resin products have excellent thermal resistance, mechanical strength, chemical resistance, electrical insulation and adhesive properties. They, however, have defects in that — when used as casting resin — they easily crack as a result of mechanical and thermal shock and — used in the form of adhesives — are inferior in peeling strength.

The electric/electronics-equipment industry hopes to obtain high-performance, precision epoxy-resin products. On the other hand, machinery parts and structural material produced from epoxy-resin products are required to have a high degree of toughness.

Heat-resistant Adhesive Material Marketed

Dynamit Nobel Japan Co. has started marketing polyester-based material (trade name: DYNACOLL RP) for moisture-curing hot-melt adhesives. The new material can withstand heat of a temperature higher than 150°C, has excellent cold resistance, and firmly adheres to the target material. The company envisages applying the material to manufacture of sealants as well as adhesives.

After being applied to the surface of the target material, moisture-curing, hot-melt adhesives react with water vapor and the humidity in air and cure via an irreversible-reaction process.

Adhesives produced from the new material have thermal resistance more than 50% greater than that of conventional products, which peel off the target material at temperatures of between 80 and 100°C when they are reheated.

Godo Shusei Develops Cheap Cellulase Production Process

Godo Shusei Co. has opened the way to mass production of a cellulose hydrolyzing enzyme (cellulase) at low cost. The point of the technology lies in the utilization of cheap bagasse as culture medium for modified cellulase-producing Trichoderma Sp., whereas conventional methods have to use expensive crystalline cellulose to cultivate the germ.

Obtaining cellulase at low cost is vital to effective use of biomass resources. Bagasse is the waste matter of sugar cane (left after its juice has been extracted and used mainly for fuel) and thus is cheap.

The new process features use of baggase after treating it with bleaching powder so that the germ will come to dislike devoring and consequently produces cellulase as much as possible. The productivity of the new method is still one-third that of conventional ones using expensive crystalline cell cutlure medium and th fied germ — that is, 2(X 1/3 per millilitre of in the case of treated and 20 units in the case stalline cellulose.

Although the yield low, it could be elevate ugh efforts to the poin commercialization is via company says. Taking count the very low cost, the process has go spects, it adds.

Plant Cells Successfully Onto Urethane Foam

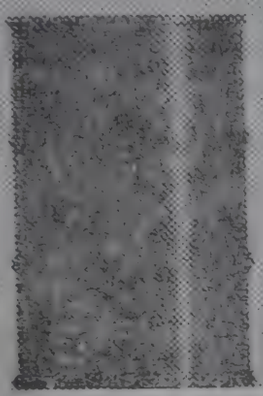
Professor T. Furuya colleagues at Kitasato sity have pioneered cell-fixing process usi thane foam. They have the usefulness of the n cess by cultivating coff cells using the new thereby producing caffe

The urethane foam ed for the said proc pores large enough to plant cells. It is suita cultivating plant cells c gether and thus slowir their growth so that t produce useful substa large quantities. The will be applied to cu of almost every type cell.

In addition, it has the f advantages: (1) the cult dia can make good cont the plant cells, (2) the concerned (urethane fo low-cost synthetic prod the size and shape of t port can be freely chan (4) the process has hig chanical strength than t nic acid/gel process now use.

yclohexylamine

A chemical
to prevent corrosion



Made indigenously by Alkyl Amines with American technology

High grade, international quality clohexylamine. The powerful corrosion hibitor. Vital for boilers in thermal power stations & fertiliser industry.

To provide surface protection from the osive effects of dissolved carbon dioxide.

yclohexylamine. Now readily available from Alkyl Amines.

l your requirements and specific enquiries, please contact us at :

kyl Amines Chemicals Limited

Bombay Office:

V.I.P. House, 88 C Old Prabhadevi Road,
Bombay - 400 025. Tel: 4302935, 4307088
Tlx 011-76098, Gram: ALKYLAMINE.

Vashi Office:

401-407, Nirman Vyapar Kendra, Plot No. 10,
ector - 17, DBC, Vashi, New Bombay - 400 703.
Tel: 682535, 682536

AA-170/86

A trusted name in Chemicals.

SUBMERSIBLE PUMP
(For Highly Corrosive Liquid)

IN MATERIAL

POLYPROPYLENE	ALLOY-20
STAINLESS STEEL	HASTELLY
CAST IRON	TEFLON

Manufactured By :

DIAMOND CHEMICAL PUMPS CO.

B-9, Wadia Bldg, Cawasji Patel Street,
2nd Floor, Fort, Bombay-400 001.
Phone : 2870736

For Your Requirement of

HYDROBROMIC ACID (48% & 62%)
HYDROBROMIC GAS IN ACETIC ACID
BROMOBENZENE
N-PROPYL BROMIDE
ISOPROPYL BROMIDE

ISOAMYL BROMIDE
N-BUTYL BROMIDE
ETHYL BROMIDE
CETYL BROMIDE
LITHIUM BROMIDE
ISOPROPYL CHLORO ACETATE
METHYL CHLORO ACETATE
ETHYL CHLORO ACETATE

ISOPROPYL ACETATE
BENZOYL CHLORIDE
ACETYL CHLORIDE
CHLORO ACETYL CHLORI
CAPROIC ANHYDRIDE
ETHYL FORMATE
SODIUM BROMIDE
POTASSIUM BROMATE

Contact Manufacturers :

SONTARA ORGANO INDUSTRIES

OFFICE :
3-A Mangaldas Bldg. 2nd Floor,
R.N. 242, Mangaldas Road,
Bombay-400 002.
Phone : 315681 (O)
Resi. : 522207, 4123313

FACTORY :
SHED 16, M.I.D.C. CHEMICAL ZONE, AMBARNATH-421 501.
Phone : 2483 (F)

FOR SALE
(as is where is)

10 TONNES
LPG GAS CYLINDER UNIT

Complete with fittings as per BS-1515 Part 1-1965 duly certified by Lloyds.
Only interested party to visit Site for Inspection on any Wednesday/Thursday.

Contact :

Mr. V. J. UPADHYAY
Director,

HAMILTON INDUSTRIES PVT. LTD.
9, MIDC Engg. Zone,
Kalyan Badlapur Road,
Ambernath-421 501.

GUJARAT AROMATICS LIMITED

THE PIONEER IN MANUFACTURE OF SYNTHETIC CRESOLS

- META CRESOL 40-42%, META CRESOL 46-47%
- CRESYLIC ACID 100%, PARA CRESOL 80-85%

AND BYPRODUCTS

- SODIUM SULPHITE 80-85%, SODA ASH 55-65%
- SODIUM SULPHATE 96-98%, GYPSUM

NOW ALSO OFFERS

- ACID SLURRY (LABSA) 86-90% active matter
- PURE META CRESOL 98%
- CRESOL 'X' - SOAP GRADE (3,4 XYLENOL RICH)

PLEASE CONTACT

PROMISED DELIVERIES
UNRIVALLED QUALITY

Marketing Division :
PO Atul, Dist Valsad
Pin 396 020
Tel. 261-264,
Tlx. 180-212 ATUL IN

Factory :
297, GIDC Indl. E
Ankleshwar 393 0
Dist Bharuch
Tel. 2003/2074/2

Regd. Office : H. K. House, 6th Floor, Ashram Road, Ahmedabad 380 009 Tel. 448124/44929

RKET INFORMATION

Transport Strike Hits Market

week transport strike in severely hampered the of goods in the Bombay nd dyes market. Many in- starved of vital raw ma- dy goods were unable to ut to the outstation parties.

PVA & Goshenol 17 were in limelight. The price of Goshenol 17 moved up Rs. 10/- in a single day. Scarcity is expected. Owing to good demand, cyclohexanone was traded well. Caustic and soda ash were in good demand.

We cannot guarantee the accuracy of the prices published in CHEMICAL WEEKLY as they are based only on the enquiries made by our correspondent — and, as such they are not FIRM PRICES as between a buyer and a seller. The prices are published only with a view to giving some ideas of market conditions.

The prices are inclusive of Excise and Maharashtra Sales Tax.

There was some shortage in methyl ethyl ester in dyes market. Alfanaphthol had good enquiries. Other items were normal.

(Prices as on 7th January, 1988)

L CHEMICALS	Per kg.
sulpnate	2.00
phosphate (Mono)	14.50
phosphate (DI)	12.00
carbonate (DI)	17.00
bicarbonate	4.75
chloride	3.50
nitrate	4.00
te powder	21.00
	58.00
onate	6.00
owder (33% Cl)	3.75
ular)	15.00
der)	15.50

Boric acid (Tech.)	21.00
Bisphenol-A	60.00
Butyl carbitol	35.00
Caustic soda (Flakes)	8.50
Caustic soda (Solid)	7.75
Caustic soda (Lye)	6.00
Calcium chloride 70% (solid)	3.25
Calcium chloride 75-80% (fused)	3.50
Calcium chloride 36% (Anhydrous)	5.00
Calcium carbonate (PPT)	3.00
Calcium carbonate (Activated)	3.55
Camphor (Indian)	80.00
Cresylic acid	50.00

Cream of Tartar (Tech.)	64.00
Citric acid (Belgium)	40.00
Citric acid (Indian)	39.50
Copper sulphate	17.00
Chromic acid	50.00
Cyanuric chloride	120.00
Cobalt oxide	280.00
Carbitol	52.00
Dicalcium phosphate (Anhydrous)	16.00
Ferric chloride (Lumps)	6.00
Ethylene urea	56.00
Glue flakes	8.46
Glue sheets	6.75
Gohsenol GH 17	72.00

For Your Regular Supply at Competitive Rates :

WHITE PASTE FOR KHADI PRINTING

— ON COTTON, POLYESTER/COTTON , NYLON

(Excellent Fastness, Withstands Carbonising and Alkaline Wash with Hydro & Caustic)

— NO CURING REQUIRED

Contact MANUFACTURERS and IMPORTERS :

Visen Chemicals Pvt. Ltd.

222/A, Virwani Industrial Estate, Western Express Highway,

Goregaon (East), Bombay-400 063. Phone : Resi. : 6722385

Hydro	37.00
Hyflosupercell	19+ST
Hexamine	29.00
Industrial Wax	25.00
Litharge	15.00
Lead Acetate (Tech.)	28.00
Lithopone	15.00
Magnesium chloride (crystal)	2.00
Menthol crystal (Flakes)	185+Ex.+ST
Menthol bold	205+Ex.+ST
Menthol crystal bold	245+Ex.+ST
Magnesium carbonate (Japan)	16.00
Magnesium carbonate (Indian)	15.00
Maleic Anhydride (per kg)	38.00
Mercury (75 lbs.)	9,000.00
Nickel chloride	60.00
Oxalic acid	20.00
Peppermint oil (Rectified)	90+Ex.+ST
Potassium carbonate (Indian)	19.00
Potassium carbonate (Imported)	21.00
Potassium bichromate	22.00
Potassium phosphate (Mono)	14.00
Potassium phosphate (Di)	14.00
Polyvinyl alcohol (No. 117)	88.00
Polyvinyl alcohol (No. 173)	90.00
Polyvinyl alcohol (No. 208)	95.00
Paraformaldehyde	16.00
Phthalic anhydride 96%	23.25
Pentaerythritol	60.00
Paraffin wax	13.50
Rangolite (German)	70.00
Rangolite (Czech.)	46.00
Sodium sulphate (Fine)	4.00
Sodium sulphate (Coarse)	3.80
Sodium sulphide 50-52% (Flakes)	8.00
Sodium sulphide 58-60% (Flakes)	9.00
Sodium sulphide pure (Flakes)	12.25
Sodium nitrite	13.25
Sodium chlorite 80% (Spain)	90.00
Sodium chlorite 50% (Spain)	81.00
Santobrite (Indian)	38.00
Soda Ash (Tata)	3.90
Soda Ash (Birla)	3.75
Soda Ash (Imp.)	3.50
Sodium bicarbonate	5.25
Sodium bisulphite	4.50
Sodium silicate	3.00
Sodium acetate	5.90
Sodium alginate	220+ST
Titanium Dioxide (Anatase)	52+ST
Titanium Dioxide (Rutile — RCR_2)	60+ST
Tartaric acid (Crystal)	94.00
Trisodium phosphate	4.80
Thiourea	65+ST
Urea (Tech)	2.75
Vacuum salt	1.00
Zinc Dust	30.00
Zinc Oxide	30.00
Zinc chloride powder (technical)	14.00
Zinc sulphate	3.90

SOLVENTS	Per kg.
Acetic Acid (Glacial)	12.50
Acetic Anhydride	30.00
Acetone	24.00
Adipic Acid	50.00
Aceto Acetanilide	50.00
Aniline Oil	44.00
Benzoate Plasticiser	33.00
Butyl Acetate	42.00
Butyl stearate	36.00
Butyl acrylate	58+ST
Butanol	38.00
Benzyl chloride	24.00
Benzo trichloride	16.00
Benzoyl chloride	22.00
Benzyl alcohol (FPC)	36.00
Bromine Liquid	42.50
Chloroform	
Carbon Tetrachloride	
Cyclohexanone	
Cyclohexanol	
Diacetone	
Diethylene glycol (DEG)	
Dioctyl Phthalate	
Diallyl Phthalate	
Dimethyl Phthalate	
Dioctyl Adipate	
Dibutyl Adipate	
Dipentene	
Dimethylamine 40%	
Dimethylamine 60%	
Ethyl Acetate	
Ethyl Acrylate	
Ethylene Dichloride	
Ethylene Glycol	
Formic Acid (Imp.)	
Formaldehyde	
Glycerine (CP)	
Glycerine (IW)	
Hydrogen peroxide 50%	
Iso Propyl Alcohol	
Iso Butyl Alcohol	
Monoethanolamine	
Morpholine (Indian)	
Melamine	
Methyl Ethyl Ketone	
Methyl Isobutyl Ketone	
Methyl Acrylate	
Methylene Dichloride	
Meta Cresol	
Nitrobenzene	
Nitric Acid (Con.) (RCF)	
Ortho Cresol	
Phenol	
Propylene Glycol	
Polyethylene Glycol (No. 2	
Polyethylene Glycol (No. 4	
Polyethylene Glycol (No. 6	

AVAILABLE AT COMPETITIVE PRICE WITH 5% EXCISE GATE PASS :

DI BUTYL PHTHALATE
DI BUTYL MALEATE
DI OCTYL PHTHALATE

Manufactured By : M/s. DILIP CHEMICALS — Vapi

Please Contact :

SWASTIK CHEMICALS
98, Kazi Sayed Street, Khand Bazar, Bombay-400 003.
Phones : Office : 343932/324168 Resi. : 5125004
Ahmedabad : Mr. BIPINBHAI Madras : Mr. CHARI
Phone : 410631 Phone : 662252

DISTRIBUTORS REQUIRED

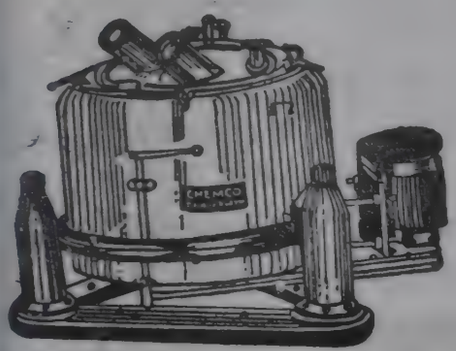
The Advertiser, is a leading manufacturer of dyes — like Acid, Basic, Direct, Reactive and Ramazole, wishes to appoint Distributors for Surat, Southern Region and Northern Region on very attractive terms.

Interested financially sound parties, having good sales network among their territories, having their own office, phones and godown facilities should write with full details to :

BOX NO : 2173
CHEMICAL WEEKLY
306, Shri Hanuman Industrial Estate,
G. D. Ambekar Road, Wadala, Bombay-400 031

CENTRIFUGES (Hydro-Extractor)

30 c.m. to 150 c.m. dia basket size in MS/SS/SS Lined/RL/RRP Lined



We also Fabricate
REACTION VESSELS, PRESSURE VESSELS, CONDENSORS, STORAGE TANKS, BALL MILLS & MS/SS FABRICATION
CONTACT MANUFACTURERS :

CHEMO FAB INDUSTRIES

Ram Baug, Behind State Bank of India, S. V. Road,
Chincholi, Malad (West), Bombay-400 064.
Phones : Factory : 691401 Resi. : 694616, 697894

sed Agent For Andhra Pradesh :
ee Vamsa Sales Organisation, 3-3-1911, Kutbiguda, Hyderabad-500 027. **Telephone : 41351**
For South India (Except A.P.) — M/S. TECSYS
nappa Maistry Street, Woods Road, Madras-600 002. Phone : 849727

ght on the ark in

quality
price
availability

milestone
IRON POWDER
(REDUCTION GRADE)

MILESTONE INDUSTRIES

1013-14, Phase-IV, G.I.D.C. Estate, Naroda 382 330
Phone : 810560, 812543 Gram : Milestone

milestone

Polyethylene Glycol (No. 1600)	14.00
Polyethylene Glycol (No. 4000)	38.00
Polyethylene Glycol (No. 6000)	50.00
Para Cresol	40.00
Styrene Monomer	32.00
Sorbitol	16.50
Trichloroethylene	25.00
Triethanolamine	50.00
Sulphuric Acid	2.10
Turpentine Oil (Germany)	8.00
Turkey Red Oil (50%)	11.75
Triethylamine	50.00
Vinyl Acetate Monomer	41.00

SOLVENTS	Per Litre
Benzene	8.80
N-Heptane	8.00
N-Hexane	8.7
Methanol	6.75
Solvent Naphtha Heavy	9.50
Solvent Naphtha Light	8.50
Toluene	9.25
Xylene	14.00

DYES INTERMEDIATES PRICES ARE WITHOUT TAX & EXCISE	Per kg.
Alphanaphthylamine	54.00
Alpha Naphthol (Imp.)	160.00
Aceto Acetic Ester (Methyl)	65.00
Ammonium Molybdate	170.00
Anthraquinone	80.00
Anthranilic Acid	60.00
2-Amino-4-Nitrophenol (Imp.)	140.00
Blue B. Base (Local)	235.00
Beta Naphthol (Atul)	55.00
Benzidine Dihydrochloride (BDH)	70.00
Bromamine Acid	375.00
BON Acid	107.00
Chicago Acid	280.00
Coach Acid	53.00
C. Acid (Imp.)	260.00
Cyanuric Chloride (Japan)	120.00
2, 4, DNCB	26.00
Dihydrothio PTOS (Imp.)	500.00
Dimethyl Aniline	58.00
Diethyl Aniline	140.00
Di-amino stilbene disulphonic acid	120.00
3, 3-DCB (Imp.)	165.00
Gamma Acid (Atul)	160.00
H. Acid (Atul)	150.00
G. Salt	56.00
Isophthalic Acid	39.00
J. Acid	270.00
J. Acid Urea	270.00
K. Acid	95.00
MDPS (German)	200.00
MNA	75.00
Meta Urido Aniline	135.00
MPD (Local)	130.00
MPD (Japan)	150.00
Naphthenic Acid	11.00
N-Methyl J. Acid	
N-Methyl Aniline	
Naphthalene crude	
Naphthalene (Refined)	
Ortho Anisidine (OA Imp.)	
Ortho Dichloro Benzene (OBCB)	
OT Base	
Para Dichloro Benzene (PDCB)	
Para Anisidine (PA-Imp.)	
Para Anisidine (PA-Local)	
PNA	
Para Cresidine (Imp.)	
Para Amino Azo Benzene (India)	
PNCB	
Para Amino Acetanilide	
1-Phenyl 3-methyl-5 Pyrazolone	
Phenyl J. Acid	
Para Amino Benzoic Acid	
PT Base	
Rhoduline Acid	
Resist Salt	
Resorcinol	
Sodium-Naphthionate	
5-Sulpho-Anthranilic Acid	
Sulpho Tobias Acid	
Sulphanilic Acid	
Trichloro Benzene (TCB)	
Tobias Acid	

NOW AVAILABLE ANY QUANTITY, AS AND WHEN REQUIRED BY YOU

MONO-CHLORO ACETIC ACID

When it comes to chemicals little extra. Making sure to chemicals that meet exactin of quality, purity and reliabi Backed by research and thor testing. Our customer servic you improve your present pr and develop new ones. And we can meet your requireme whenever and wherever you why not try ?

We manufacture: N.T.A. • E salt • S.M.C.A. • Sodiu & Hydrochloric Acid.

We market: Acetic Acid Anhydride • Butyl & Amy • Ethyl & Butyl Acetate A • Paraldehyde • D.B.P. •

ashok or industrie

Regd Office : 406 Sharada Chamb 33 New Marine Lines, Bombay 40 Phones: 252236-252258 • Telex: Factory: Nandesari, Dist. Baroda.

PEARL-AO-8/79

For Your Requirements Of :

PHENOL
FORMALDEHYDE

Please Contact :

International Chemical Corporation

14/154, Jai Ambe, Garodia Nagar, Ghatkopar, Bombay-400 077.

Phones : 334434/5123177

For Your Requirement Of :

STABLE BLEACHING POWDER

(AVAILABLE CHLORINE 35% TO 38%)

VIKRAM BRAND

Packed in 25 Kgs and 50 Kgs HDPE Bags and 50 Kgs M.S. & G. I. Drums

Contact Manufacturers :

GRASIM INDUSTRIES LTD.

(FORMERLY GWALIOR RAYON)

91, Sakhar Bhawan, 230, Nariman Point, BOMBAY-400 021.

Phone : 2043454 **Telex : 011-4235 GRIR IN**

The most reliable source for quality chemicals.

RAMCHANDRA & COMPANY

661/6, Kanuga Mansion, Kapasia Bazaar, AHMEDABAD-380 002.

Phone : 339377 **Gram : INNOCENCE**

NUFACTURE

ium Sulphite
Carbonate
o hydrate)
Nitrate
mmonia of
, 28.5%, 32%)
um Chloride XLS
Alum XLS
o & Industrial)
a Alum
Ammonium Sulphate
r's Salt)
Its

WE DEAL IN :—

ACIDS

Acetic • Citric
Cresylic
Formic • Oxalic
Hydrofluoric
Phosphoric
Stearic

OILS

Creosot • Pine
Terpentine

MINERALS

French Chalk Powder
Bauxite Barytes
Calcium Carbonate
Red Oxide

CHEMICALS

Phenol • Glycerine
PVA 173 • GL 17
Carbon Tetra Chloride
Formaldehyde
Hydrogen Peroxide
Borax — Calcium Chloride
Alum Aluminium Sulphate

and other items such as : —

MONIA GAS • AMMONIA COMPRESSOR OILS • SODIUM SULPHIDE • SODIUM SULPHITE & BISULPHITE • ZINC CHLORIDE • SOLVENTS ETC.

(KNS—ADI)

Bombay Dyes Market

(Prices as on 7th January, 1988)

ACID COLOUR	Per Kg
Acid Violet 4BS	143.00
Acid Maroon V	110.00
Acid Orange II	77.80
Acid Orange IIY	63.05
Acid Red A	107.25
Crosein Scarlet MOO	155.00
Acid Scarlet 3R	99.90
Acid Red 38N	135.00
Acid Red R2R	132.00
Acid Red RS	88.00
Acid Green V	130.00
Acid Patent Blue AS	250.00
Acid Coomasi Blue	200.00
Acid Yellow 5GN	65.00
Acid Red PG	85.00
Acid Red GRS	78.00
Acid Black 10 BX	121.95
Acid Black BX	98.40
Acid Black Wax	135.60
Procinil Yellow GS (I.C.I., UK)	265.00
Procinil Red GS (I.C.I., UK)	530.00
Procinil Blue RS (I.C.I., UK)	315.00
Procinil Scarlet G (I.C.I., UK)	600.00
Procinil Orange G (I.C.I., UK)	250.00
Procinil Rubine (I.C.I., UK)	550.00

DIRECT COLOURS	Per Kg
Yellow 3GX	88.10
Sun Yellow RCH	124.40
Fast Yellow GCH	141.15
Yellow CFG Hly. Conc	312.00
Fast Yellow GS	111.65
Fast Yellow CHRS	95.45
Viscose Orange A	188.15
Fast Orange GR	133.75
Red	96.90
Dark Tan	78.25
Red IIR	72.55
Red 4B	169.10
Bordeaux BW	132.30
Fast Scarlet 4BS	166.55
Red 12B	170.55
Bordeux Hly Conc.	194.00
Cotton Red N	117.05
Brill. Fast Hello B	278.00
Brill. Fast Hello 2B	297.00
Brill. Fast Hello 2RS	136.20
Brill. Fast Hello BS	116.10
Brill. Violet Extra	126.40
Blue 2B	86.60
Blue G	170.50
Sky Blue FB	188.25
Copper Blue GR	147.00
Fast Greenish Blue GL	114.60
Developed Black BT	116.10
Blue NB-2B	300.20
Blue NB-2BC	185.30
Developed Black NB BHB	185.30
Green B	111.65
Green NB-B	188.25
Green 2B-N	188.25
Brown MR	154.40
Brown CN	107.25
Golden Brown G	140.35
Catechin G	120.50
Omega Tan	126.40
Catechin GS	102.80
Black E Hly Conc	102.60
Black E Extra Hly Conc	142.60
Black NB-ER Hly. Conc	310.50

DISPERSOL COLOURS	Per Kg
Yellow 6G Powder	143.80
Red B 3B Powder	247.80
Red B 2B Powder	323.20
Red CB Powder	439.15
Red D2B Powder	477.40
Violet C 4R	521.90
Blue BG Powder	235.45
Blue BN Powder	103.75
Blue D 2R Powder	476.25
Navy BT Powder	243.90
Blue B 2G Powder	210.20
Black BT Powder	182.60
Blue BR Powder	390.20
Yellow 7GL	338.60
Yellow 5RX	218.80
Yellow 3G	367.25
Yellow	140.00
Yellow AL	135.30
Yellow Brown REL	247.50
Yellow FFL	463.60
Gold Yellow GG	259.70
Pink REL	247.00
Red REL	468.65
Red 2B	327.40
Red FB	324.20
Red Violet FBL	469.85
Orange 3R	196.65
Violet 3R	280.60
Violet 6R	485.75
Violet RL	
Scarlet RR	
Rubine 3B	
Rubine CB	
Blue GL	
Blue BGF	
Navy Blue RL	
Brown 3REL	
Black GEL	
Dark Brown 3R	

BASE COLOURS
Fast Yellow GC
Fast Orange GC
Fast Scarlet R
Fast Scarlet RC
Fast Scarlet RCR
Fast Scarlet G
Fast Scarlet GN
Fast Scarlet GG
Fast Scarlet GGS
Fast Red B
Fast Red RC
Fast Red R Flakes
Fast Red TR
Fast Red TR Oil
Fast Red RL
Fast Red KB Oil
Fast Bordeaux GP
Fast Garnet GBC
Fast Violet B
Fast Blue BB

NAPHTHOL COLOURS
ASG
AS
ASSW
ABBS
ASBO
ASD
ASOL
ASTR
ASPH
ASE
ASEI
ASLB
ASBT
ASWG
ASSG
ASSR

COLOURS	Per Kg
ellow HR	181.80
ow H4G	117.85
low H-8GP	168.55
low HE6G	166.95
-E4R	276.05
llow H7G	332.30
4R	243.95
GR	326.05
llow M4G	177.10
low M8G	332.30
3R	217.60
nge H 2R	241.85
H 7B	157.95
nge M 2R	313.15
H 8B	169.45
rlet H RN	245.05
d H-3BP	179.30
d H-F3B	243.45
genta HB	167.00
d M 5B	98.90
M 8B	173.70
k MB	137.10
agenta MB	121.55
rple H-3R	180.20
urple H-7R	175.40
ue H 3R	298.50
ue H-GR	366.55
ue H 5G	173.10
5R	283.85
lue H 7G	178.70
ue H 7RX	358.15
se HA	234.45
Blue H-3RP	335.70
Turquoise H 2GF	181.50
-ERD	305.80
lue H ER	258.60
5RX	269.30
Navy Blue M 3R	310.95
Brill. Blue MR	331.70
Brill. Blue M RX	214.20
Brill. Blue M-G	382.30
Blue M 4GD	344.60
Navy Blue M RB	318.75
Turquoise M-G	197.85
Brill. Blue M GX	302.50
Blue 3R Acre Powder	718.20
Dark Brown H 6R	248.45
Cobalt Oxide (per kg.)	285.00
Green H 4BD	269.80
Green H-E4BI	169.80
Red Brown H IF	143.25
Orange Brown H 28	209.05
Brown M GRN	188.80
Black H-N	283.35

SULFUR COLOURS	Per Kg.
Navy Blue	99.85
Green G	138.55
Black Grains Extra	63.05
Black Grains OG	64.55
Black GXE Conc.	61.60
Black GXE	52.75
Black GXR	61.60
Black Grains 800	54.20
Black EXR Grains	64.55
Black EXR Grains 800	51.25

VAT COLOURS (ICI)	Per Kg
Yellow 5G Powder Fine	673.15
Yellow 5G Supra Disperse	439.30
Yellow 5G Acra Con.	628.75
Yellow 3R Powder	588.85
Gold Orange 3G Pdr. Fine	952.15
Brill. Orange 6R Pdr. Fine	624.35
Gold Orange 3G Supra Disp.	601.30
Brill. Orange 6RX Powder	394.30
Brill. Red 3B Pdr. Fine	997.80
Brill. Red 3B Supra Disp.	713.20
Brill. Purple 4R Conc. Pdr.	470.75
Brill. Purple 3R Acra Powder	690.85
Brill. Purple 2R Hly Conc.	597.90
Brill. Purple 4R Supra Disp.	500.05
Brill. Purple 2R Acra Conc.	625.95
Blue R Powder Fine	542.15
Blue BC Conc. Pdr. Fine	522.50
Blue BC Acra Conc. Pdr. Fine	762.70
Blue R Conc. Pdr. Fine	577.65
Blue RR Supra Powder	629.35
Blue Conc. Powder	645.80
Brill. Blue 2R Hly. Conc.	378.55
Brill. Blue 2R Supra Disp.	115.65
Dark Blue 2R Powder Fine	389.25
Blue BC Supra Disp.	359.40
Jade Green XBN Powder Fine	438.20
Jade Green XBN Acra Conc. Powder	823.90
Jade Green 2G Pdr. Fine	419.65
Jade Green 2G Ptg. Paste	125.40
Jade Green XBN Ptg. Paste	126.00
Jade Green 2G Supra Disp.	496.00
Olive Green B Pdr. Fine	399.90
Olive D Pdr. Fine	444.30
Olive Green B Supra Disp.	308.25
Jade Green XBN Supra Disp. (N)	327.30
Olive OMW Pdr. Fine	698.55
Olive OMW Supra Disp.	538.05
Olive R. Pdr. Fine	422.95
Olive D Supra Disp.	361.70
Olive R Supra Disp.	363.90
Olive D. Ptg. Paste	193.00
Olive Green B. Ptg. Paste	199.10
Olive Green B Acra Conc.	542.75
Olive R Acra Conc.	640.00
Olive Green B Acra Conc.	542.75
Brown R Pdr. Fine	835.00
Brown G. Pdr. Fine	795.00
Brown R Pdr. Fine	659.75
Dark Brown 3R Pdr. Fine	685.00
Brown G. Supra Disp.	449.90
Brown 2G Supra Disp.	554.00
Brown R Supra Disp.	422.95
Brown BR Powder	719.00
Dark Brown 3R Ptg. Paste	217.15
Dark Brown 3R Supra Disp.	414.55
Brown G Acra Conc.	733.95
Brown R Acra Conc.	766.00
Grey M. Powder Fine	768.80
Grey M. Supra Disp.	585.45
Blue BC Acra Conc. Pdr. Fine	762.70
Direct Black AC Supra Disp.	330.35
Direct Black AC Pdr. Fine	474.70
Direct Black CH Supra Disp.	393.20
Direct ACD Ptg. Paste	217.15

Delhi Market

DELHI : JAN. 8 (NNS) — Zinc oxide went up sharply by Rs. 4000 and touched a new peak level of Rs. 34000/38000 per tonne in the local chemicals market during last week, followed by hike its prices by manufacturers as well as tight supply.

Naphthalene balls shoot up sharply by Rs. 120 at Rs. 1180 per 50 kg on account of increased excise duty of 15 per cent on raw material. Citric acid China jumped up further by Rs. 200 at Rs. 2300 in the absence of fresh import from China along with restricted supply from Bombay Dyeing. Its March and May delivery prices were quoted at Rs. 2350 and Rs. 2400. Bombay Dyeing citric acid advanced by Rs. 100 at Rs. 2400 in the absence of supply from Bombay due to transport strike there.

Rangolite China and Germany increased by Rs. 2 each at Rs. 42 and Rs. 52 in the absence of fresh arrivals as well as stray buying by gur khandsari manufacturers. Sodium hydro sulphite Tamilnadu Damosha and Kalali held steady at Rs. 31, Rs. 34 and Rs. 36 per kg. Camphor powder moved up from Rs. 84 to Rs. 87 and that Rs. 93 to Rs. 95 per kg owing to tight supply by manufacturers. Hexamine edged up by Rs. 1 at Rs. 26 per kg. owing to good demand.

Borax granular and Crystal hardened by Rs. 20 at Rs. 580 each per 50 kg. owing to scare supply. Boric acid technical ruled static at Rs. 1000. Formaldehyde firmed up by 50 paise at Rs. 6.50 per kg. Ammonia bicarb went up by Rs. 3 at Rs. 135 per 25 kg. due to acute shortage of stocks and increased purchases by bakeries. Stable Bleaching powder KCl looked up by Rs. 4 at Rs. 89 per 25 kg.

Titanium dioxide Anatase slumped by Rs. 2 at Rs. 51 on stockist selling as well as lack of demand by paint and plastic units. After an initial firmness of Rs. 2 at Rs. 69, while titanium dioxide RC. 822 due to shortage of goods but at weakened it turned easy and closed at Rs. 67 owing to pressure of selling. Copper sulphate however, suffered a step fall of Rs. 200 at Rs. 1700/2000 per quintal caused by reduced copper prices by Rs. 5 per kg. by MMTC. Soda bicarb softened by Rs. 5 owing to increased offerings of Tata goods. Paraffin wax declined by Rs. 15 at Rs. 575 on increased offerings and poor offtake. Menthol flake and bold went up from Rs. 158 and 175 to Rs. 175 and Rs. 194 per kg. in the beginning of the week due to paucity of supply but later thanks to fresh offerings from U.P. its prices turned easy and closed at Rs. 167 and Rs. 184. Mercury ruled steady at Rs. 8,700 per flask.

Direct dyes Green B. hardened by Rs. 4 at Rs. 119 on improvement in demand. Sky blue FB firmed up by 15 paise at Rs. 200.15 paise in support.

(DELHI MARKET RATES AS ON JANUARY 8, 1988)

Ammonia Bicarb (per 25 kg)	135.00
Mercury (per flask)	8,700.00
Soda ash (per bag)	255-290.00
Ammonium Chloride (per 50 kg.)	110-180.00
Caustic Soda solid (per 50 kg)	390.00
Caustic Soda flakes (per 50 kg)	385-388.00
Citric acid (per 50 kg)	2,300-2,400.00
Stable Bleaching Powder Shriram (per 25 kg)	96.00
Stable Bleaching Powder KCl (per 25 kg)	89.00
Stable Bleaching Powder MODI (per 25 kg)	92.00
Sod. Bicarbonate (per 50 kg)	250.00
Sod. Hydro Sulphite (per kg)	31-36.00
Rangolite (per kg)	42-62.00
Boric acid Technical (per 50 kg)	1000.00
Paraffin wax (per 50 kg)	575.00
Tartaric acid (per 50 kg)	7,250.00
Borax Granular (per 50 kg)	580.00
Borax Crystal (per 50 kg)	580.00
Sodium Nitrite (per 50 kg)	650.00
Sodium Nitrate (per 50 kg)	380.00
Camphor Thal (per kg)	95.00
Camphor Powder (per kg)	87.00
Menthol Bold (per kg)	184.00
Menthol flake (per kg)	167.00
Menthol medium (per kg)	178.00
Glycerine (per kg)	45-55.00
Sodium Silicate (per quintal)	250.00
Hexamine (per kg)	26.00
Acetic Acid Glacial (per kg.)	14.50-18.00
Copper Sulphate (per quintal)	1,700-2,
Formic acid (per kg)	
Formaldehyde (per kg)	
Hydrogen Peroxide (per kg)	26
Calcium Carbonate (per tonne)	2,500-4
Acid Slurry Soft (per kg.)	
Acid Slurry Hard (per kg.)	
Phosphoric Acid (per 50 kg.)	
Pot. Nitrate (per quintal)	900-1
Pot. Permanganate (per 50 kg.)	2
Sod. Bichromate (per 50 kg.)	1 025 1
Tri-sod. Phosphate (per 50 kg.)	310-
Titanium Dioxide Anatase (per kg)	
Titanium RC-822 (per kg)	
Zinc Oxide (per metric tonne)	34,000-38
Phenol Carbolic Acid (per kg)	
Carbon Tetrachloride (per kg.)	
Chloroform (per kg.)	
Sodium Sulphate (per 50 kg.)	160-
Naphthalene Balls (per 50 kg)	1.

DYES & COLOUR

Naphthol AS	
Naphthol ASG	
Naphthol ASBS	
Naphthol ASTR	
Naphthol ASOL	
Naphthol ASBO	

DIRECT DYES

Black E. Conc.	92-
Diazo Black B.T.	
Green B.	
Blue 2-B	
Sky Blue FB	
Basic Auramine 'O' Conc.	55
Basic Rhodamine B 500%	220
Basic Methylene Blue	92
Basic Violet	142
Basic Malachite Green	160
Acid Orange	4

Madras Market

w Year opened the market in ood and many of the impor- icals were done in a higher peculative interest was also he market. Caustic Soda com- ere in keen demand, resulting increases. Traders were very any way the tendency dur- st week of the year was mo-

Acid Glacial and Ammonium were done at Rs. 15 per kg 18 per kg respectively. Powder moved up by Rs. 10 0 per 25 kg while Ammonium te was firm at Rs. 138 per ue to heavy sellers Borax was the only item which was down sharply to Rs. 620 per m Rs. 1000 per 50 kg. Caus- (S) showed a steep rise from to Rs. 400 per 50 kg. due to mand. Likewise Caustic Soda ndhra from Rs. 360 to Rs. 50 kg and Caustic Soda Fla- ur from Rs. 368 per 50 kg to Rs. 400 per 50 kilogram respecti- tively.

Business was possible in cresylic acid at Rs. 45 and Formic at Rs. 40; Copper Sulphate Ram marked up by Rs. 125 and closed at Rs. 950 due to heavy buyers in the market. Phosphoric Acid and Stearic Acid were available around their previous levels. Soda Ash Tata up by Rs. 10 while Birla was sticky at its previous price. Sodium Bichromate, Sodium Bicarbonate and Sodium Nitrate were stable.

There was interest in Sodium Silicate at Rs. 130 and Sodium Bisulphite Aswin at Rs. 185; Benzene was going up slightly by Rs. 2 at Rs. 28 while Toluene was steady. Both Hyflosupercell and Isopropyl Alcohol moved up by Rs. 3 each and closed at Rs. 48 and Rs. 25 respectively. Cellosolve, Diacetone Alcohol, Dibutyl Phthalate, Di Ethylene Glycol etc. were not traded.

(MADRAS MARKET RATES AS ON JANUARY 11, 1988)

m 'Ram' DCL onne)	1,700.00
cid Glacial (per kg)	15.00
im Acetate (per kg)	18.00
im Bicarbonate 25 kg)	138.00
im Chloride India onne)	1,900.00
im Chloride SPIC onne)	1,700.00
g Powder (per 25 kg)	110.00
ranular (per 50 kg)	620.00
Acid (per kg)	18.00
Acid Flakes (per kg)	26.00
Chloride DCM 50 kg)	255.00
Soda (S) (per 50 kg)	400.00
Soda Flakes Andhra 50 kg)	400.00
Soda Flakes Mettur 50 kg)	400.00
Soda Flakes D.C.M. 50 kg)	365.00
cid Desni 50 kg)	3,400.00
Oxide (per kg)	280.00
Sulphate (Ram) 50 kg)	950.00
Cresylic Acid (per kg)	45.00
Formic Acid (per kg)	40.00
Formaldehyde (per kg)	11.00
Hydrosulphite of Soda (Ind.) (per kg)	35.00
Hydrosulphite of Soda (Imp.) (per kg)	38.00
Hydrogen Peroxide BASF (per kg)	29.00
Magnesium Carbonate Ind. (per kg)	32.00
Magnesium Chloride pure (per kg)	28.00
Oxalic acid (per 50 kg)	900.00
Manganese Sulphate Fert. (per 50 kg)	265.00
Manganese Sulphate Tech. (per 50 kg)	240.00
Mercury (per 3.45 kg)	9,000.00
Potassium Bichromate (per kg)	19.00
Phosphoric Acid (per kg)	15.00
Stearic Acid (per kg)	18.00
Soda Ash Tata (per 75 kg)	285.00
Soda Ash Birla (per 75 kg)	365.00
Sodium Bichromate (per kg)	155.00
Sodium Bicarbonate Tata (per 50 kg)	165.00
Sodium Bicarbonate Birla (per 50 kg)	175.00
Sodium Cyanide Brigs (per kg)	900.00
Sodium Nitrate (per 50 kg)	390.00
Sodium Oxide (per kg)	1,050.00
Sodium Cyanide GDR (per kg)	50.00
Sodium Nitrite Bags (per 50 kg)	530.00
Sodium Silicate (per 50 kg)	130.00
Sodium Bisulphite Aswin (per 50 kg)	185.00
Sodium Acetate (per kg)	19.50
Sodium Sulphate Powder (per tonne)	3,288.00
Sodium Sulphide (S) (per tonne)	5,200.00
Toluene (per kg)	25.00
Trisodium Phosphate (per 50 kg)	290.00
Urea Tech (per kg)	185.00
Zinc Oxide (per kg)	30.00
Zinc Chloride (per 50 kg)	500.00
Acetone (per kg)	29.00
Benzene (per kg)	28.00
Carbon Tetrachloride (per 100 kg)	1,500.00
Cellosolve (per kg)	50.00
Chloroform (per kg)	25.00
Diacetone Alcohol (per kg)	29.00
Dibutyl Phthalate (per kg)	33.00
Diethylene Glycol (per kg)	30.00
Sorbitol (per kg)	31.00
Dioctyl Phthalate (per kg)	32.00
Isopropyl Alcohol (per kg)	46.00
Methyl Ethyl Ketone (per kg)	48.00
Nitrobenzene Indian (per kg)	14.00
Trichloroethylene (per kg)	24.00
Triethanolamine (per kg)	42.00
Turpentine Oil (per kg)	8.00
Propylene Glycol DCW (per kg)	28.00
Phenol (per kg)	29.00
Isobutanol (per kg)	22.00
Paraffin Wax (per Bag)	700.00
Alkyl Benzene (per kg)	32.00
Pentaerithritol (per kg)	59.00
Glycerine HL (per kg)	48.00
Phthalic (per kg)	29.00
Hyflosuperceil (per kg)	25.00
Copper Oxide (Ram) (per tonne)	1,500.00
Zinc Chloride Solid (per kg)	11.00
Zinc Sulphate Ram (per tonne)	4,500.00

MATERIALS IMPORTED

BOMBAY
(From 1-1-88 to 4-1-88)
(Cost of Imported Item is CIF Value)

ALCOHOL: From Japan: PDI Chemicals P. Ltd., 5,000 kgs., Rs. 96,837; 5,000 kgs., Rs. 96,837; 5,000 kgs., Rs. 96,837.

BROMIDE : From Switzerland: Anand Synthochem P. Ltd., 10 kgs., Rs. 36,880.

BUTYL PHENOL From USA : Coates of India Ltd., 6,748 kgs., Rs. 99,529.

CHEMICALS: From West Germany: Western Trading Corpn., 207 kgs., Rs. 1,76,722; From USA: The Tata Oil Mills, 650 kgs., Rs. 2,01,145; From USA: Colgate Palmolive (I) Ltd., 9,579 kgs., Rs. 1,28,575.

DIPHENYL METHANE DIISOCYANATE: From West Germany: Bakelite Hylam Ltd., 500 kgs., Rs. 13,007.

DIVINYL BENZENE MONOMER: From USA: Thermox P. Ltd., Pune, 6,550 kgs., Rs. 4,86,281.

EPICHLOROHYDRIN: From Japan: Sandoz India Ltd., 6,000 kgs., Rs. 1,14,654.

HIGH DENSITY POLYETHYLENE: From Japan: Grover Imports, New Delhi, 10,000 kgs., Rs. 95,903; 10,000 kgs., Rs. 95,903; 10,000 kgs., Rs. 95,903.

ISOTOPE OF IODINE: USA: Ezra Brothers, 25 kg 4,439.

LINALOOL: From USA Tata Oil Mills, 3,243 kgs 2,78,454.

MANGANESE ACETATE West Germany: 2,000 kg 98,407.

MORPHOLINE: From Polyolefins Inds., 45,07(Rs. 10,56,192.

PHENYL XYLYL ET From Japan: Manohar Br pacitors Ltd., 2,600 kgs 70,497.

POLYETHYLENE: From pore: U.K. Engg. & Plasti 17,000 kgs., Rs. 1,60,82

PROPANE: From Japan es of India Ltd., 4,000 k 76,952.

SODIUM BROMIDE: Fr therlands: Karnataka In Chemicals, 140 kgs., Rs.

THIONYL CHLORIDE West Germany: Pefco Inc 3,000 kgs., Rs. 39,292.

TOLUENE DiISOCY. From West Germany: Hylam Ltd., 500 kgs 14,632.

TUNG OIL: From Chir ware Plastics Ltd., 5,00(Rs. 33,892.

MADRAS
(From 16-11-87 to 20-1
(Cost of Imported Ite CIF Value)

ANTIMONY TRIOXIDE Japan: W.S.I. Ltd., Mad kgs., Rs. 9,304.

AROMATIC CHE From USA: Sri Amar Co., Bangalore, 903 k 82,411.

BIOCHEMICAL: Fron National Institute of N Hyderabad, Rs. 23,114.

BIOCHEMICAL REA From USA: Madurai University, Madras, 35 17,851.

For Your Regular Requirements
At Most Competitive Rates :

Acetyl Chloride
Benzyl Chloride
Benzoyl Chloride
Benzo-Tri-Chloride
Chloro Acetyl Chloride
Iso Propyl Chloro Acetate
Methyl Chloro Acetate
Calcium Chloride Lye 35%

HYDROCHLORIC ACID IN AR/CP/Tech. Grade
SULPHURIC ACID IN AR/CP/Tech. Grade
NITRIC ACID IN AR/CP/Tech. Grade
LIQUOR AMMONIA 910 888 880

Please Contact Manufacturers :

GUJARAT INDUSTRIAL CHEMICAL CORPORATION
37/39, S. S. Gaikwad Marg (Trinity Street),
Dhobi Talao, Bombay-400 002.
Phones : 292227/254408
Factory : Plot No. 194/1, Sokhada Pillage, Tal Khambat.
(Gujarat)
Phones : 2970/2841

N BLACK: From Ja-
s TVS Ltd., Madras, Rs.

STEARYL ALCOHOL:
G: Tamilnadu Dadha
Ltd., 3,160 kgs., Rs.

MIUM OXIDE: From Ja-
S.I. Ltd., Madras, 25
3,489.

YL CARBAMAZINE CIT-
om Peoples Republic of
amilnadu Dadha Phar-
140 kgs., Rs. 22,343.

NOL: From USA: Indian
of Technology, 6 kgs.,

CYANOACRYLATE:
G: Anabond P. Ltd., Ma-
27,878.

METHYLENE DIAMINE
: From France: Shri
res Ltd., Madras, Rs.

DENSITY POLYETHYL-
om Japan: Krishna Poly-
Ltd., Hyderabad, 30,000
3,11,869.

OXY CITRONELLAL :
ance: Padmini Products
e, 169 kgs., Rs. 68,081.

YL PEROXIDE: From
CW Ltd., Madras, Rs.

PHATE: From Jordan :
MTC of India Ltd.,
0 kgs., Rs. 29,94,048.

ETHYLENE: From USA:
n Fibres Ltd., Madras,
Rs. 7,654.

IARY BUTYL METAXYL-
om FRG: Aldomusk Cor-
, 1,212 kgs., Rs. 43,201.

NIUM CARBIDE : From
Widia India Ltd., Banga-
16,927.

Tradax ceases trading at Boston and Geneva

Tradax, a trading affiliate of Cargill (Minneapolis), has discontinued petrochemical trading from its offices in Geneva, Switzerland, and Boston, Mass., Cargill says. Tradax's offices in Sao Paolo, Brazil, in Singapore and in Hong Kong will continue crude oil and oil products trading functions. In the early 1980s, Tradax was considered one of the largest petrochemical traders in the world. Currently, however, the operations in Geneva and Boston "represent a small piece of our business," says a Cargill spokesman, who adds, "We decided to concentrate our efforts on other parts of the petroleum barrel."

Swiss chemical exports drop in the third quarter

Swiss chemical exports for the third quarter of 1987 fell slightly, to $2.5 billion, a 0.9% drop from results during the corresponding period last year. Imports in the third quarter rose 1.6%, to $1.5 billion. Countries of the European Community were the most important trading partners for the Swiss chemical industry during the period, with both exports and imports showing a 2% gain. Exports to Asia fell 1%; imports rose about 4%. Exports to the U.S., reflecting the continued impact of the falling U.S. dollar, were down 5%, to $191 million.

FILTER CLOTHS

In Cotton, Nylon, Acrylic Polyester, Fibre Polypropylene, P.V.A., P.V.C. are manufactured in over 400 varieties and also supplied as per your Specifications and requirements.
Prices are competitive.
Our full-fledged technical department is ready to assist you. Please contact for further details and sample.

BHARAT INDUSTRIAL CORPORATION
Resi.: 5134142.

90, BHAJIPALA LANE, TAVAWALA BLDG, BOMBAY 400 003
GRAM: "BHARATTUBE" BOMBAY-3
PHONE: 341920, 341869, 335759
TELEX: 011-72262 DRAG IN.

Punjab Alkalies & Chemicals

IMPRESSIVE EXPANSION

Punjab Alkalies & Chemicals, incorporated in 1975 at Chandigarh, entered the capital market in 1983 with a public issue of 21 lakhs equity shares of Rs. 10 each for cash at par. The object of the issue was to provide a part of the finance required for setting up a plant at Nava Nangal, Ropar (Dt.), Punjab for the manufacture of caustic soda, liquid chlorine, hydrochloric acid and calcium hypochlorite involving a capital outlay of Rs. 31.25 crores. The public issue was reportedly over subscribed by 1.4 times. The company was promoted by Punjab State Industrial Development Corporation.

The plant, commissioned in January 1984, started commercial production in February the same year. The plant was set up based on the most modern technology. M/s. Uhde, GmbH, West Germany provided the process know-how and equipment while M/s. Uhde India Ltd., the Indian subsidiary supplied the design and detailed engineering for setting up the project.

The company was able to achieve a production of 23,000 tonnes of caustic soda, accounting for a capacity utilisation of 62 per cent during the very first year of full operation. Besides, it also produced 10,882 tonnes of liquid chlorine (capacity utilisation being 66 per cent), 25,395 tonnes of hydrochloric acid (capacity utilisation 96 per cent), 11,184 tonnes of calcium hypochlorite and 22.89 lakh NM^3 of hydrogen gas.

The company realised a net turnover of Rs. 10.72 crores during the year ended June 1985 despite serious problems of transportation, choking of flow of funds and generally depressed business environment. However, the operations resulted in a net loss of Rs. 1.51 crores.

During the year ended June 1987, the production of caustic soda was increased to 26,106 tonnes as against 25,795 tonnes in the previous year. The capacity utilisation was slightly higher at 70 per cent in 1986-87 than 69.6 per cent in the previous year. The production of liquid chlorine at 12,532 tonnes accounted for a capacity utilisation 76 per cent while the production of hydrochloric acid at 30,659 tonnes formed 116 per cent of the installed capacity. Besides, the company also produced 3,070 tonnes of calcium hypochlorite and 21.02 lakh NM^3 of hydrogen gas as against 5,035 tonnes and 19.29 lakh NM^3 respectively in 1985-86.

The net sales realised at Rs. 14.03 crores recorded an increase of 5.6 per cent over 1985-86. However, the company continued to incur loss — Rs. 1.03 crores in 1986-87 against Rs. 0.66 crores in the previous year.

The annual report of the company says that the installed capacity of the caustic soda industry remained substantially higher than demand. On the top of this, there was an import of 75,000 tonnes of cheap materials, under OGL. As a result, the market for caustic soda termed competitive during the major portion of the year under review. However, caustic soda has since been transferred for OGL list to the list of canalised items and there has been slight improvement in the offtake of indigenously produced caustic soda. With the continued expansion of credit facility, the liquidity position of the company remained strained during 1986-87.

The Rs. 10 paid up sha quoted at Rs. 5.65. The moved between Rs. 4.0 and Rs. 7.50 (high) in 19 shares were first listed o bay Stock Exchange ir when the prices fluctuate ween Rs. 6.00 (low) a 12.00 (high). There was improvement in prices ir when the high was Rs. 3 prices started sliding d 1986 when the high a were Rs. 16 and Rs. 4.50 tively.

The shares are present on Bombay and Delhi S changes. There are about share holders as of nc trading unit is 50 equity

The equity capital of t pany as at the end of Jur stood at Rs. 10.00 crore large accumulated losses ting to Rs. 4.71 crores into the reserves and which turned negative 4.50 crores. The loans and unsecured were R crores and Rs. 1.18 cr pectively. As against th liabilities and provisions 3.80 crores, the current and loans and advances ed to Rs. 10.01 crores sundry debtors of Rs. 4 res. The gross block at crores showed an incr 19.2 per cent over that ous year. The accumu preciation was Rs. 8.94

It is reported that th ions during the first q the accounting year have been encouraging plant has been runnin per cent of the licensed ty. The shift in impor and also the develop down stream units wou the company to incr turnover of caustic s chlorine. The compan that the outlook is disti ter in 1987-88 than in vious year.

FOR YOUR REQUIREMENTS OF:

Octyl Phthalate [D.O.P.]
Butyl Phthalate [D.B.P.]
Butyl Maleate [D.B.M.]
DI Octyl Maleate [D.O.M.]
DI Octyl Adipate [D.O.A.]
Butyl Stearate

PLEASE CONTACT MANUFACTURERS :

VIKRAM PLASTICIZER

1204, Dalamal Tower, Plot No. 211, Nariman Point, Bombay-400 021.
Phone : 230006, 231192, 233554, 233562

For Your Requirements of :

Ammonium Thiocyanate

Tech. C.P. & A.R. Grades

Please Contact Manufacturer :

M/s INTERMEDIATES & CHEMICALS

6, First Floor, Swastik Super Market, Ashram Road, AHMEDABAD-380 009
Phone : Off : 449807 **Fact. : 810482,** **Resi. : 406075**

For Your Regular Requirements Of :

ITRILE
CHLORIDE
MIDE
NITRILE
EXANE
HYL FORMAMIDE
HYL SULPHOXIDE
IRO HYDRINE
NE DICHLORIDE
ACID — 99% & 85%
KYLAMINE HYDROCHLORIDE
FORM
ISO AMYL ALCOHOL
ISOBUTYL ALCOHOL
ISO PROPYL ALCOHOL
LITHIUM HYDROXIDE
MAGNESIUM OXIDE
MALONIC ACID
METHYL CELLULOSE 4000
METHYL FORMATE
MORPHOLINE
METHYL ETHYL KETONE
N. BUTYRIC ACID
N. HEPTANE
QUINOLINE
P.C.B.A.
PARAFORMALDEHYDE 84-85%
PERCHLORO ETHYLENE
PETROLEUM ETHER 40-60%
SODIUM METHOXIDE
THIOUREA
TRI-CHLORO ETHYLENE GLYCOL
TERTIARY BUTYL ALCOHOL
ZINC DUST

RAJENDRA & COMPANY

Gopal House (2nd Floor), 7/9, Kumbharwada Cross Lane,
Veer Vithaldas Chandan Street, BOMBAY-400 003.
Phone : 321020/339968/344937 **Residence : 6124644/6122149**

For Your Requirements of :

1. Butyl Acrylate
2. Behenyl Alcohol
3. Glauber's Salt
4. Hydrazine Hydrate
5. Hexamine
6. Hydrogen Peroxide
7. Lithophone
8. Magnafloc — Decapol (Polyelectrolyte)
9. N. Heptane
10. Permanent Yellow GRL-80 Hoechst, German make for Printing Ink
11. Pentaerythritol
12. Para Chloro Benzene Sulphonamide
13. Thionyl Chloride
14. Thio Urea
15. Solsperse — ICI, UK, Dispersant for Paint an Printing Ink
16. Di Chloro Diphenyl Sulphone
17. Desmorapid Catalyst For Foam Industry
18. Ion Exchange Resins
19. Water Treatment Plant Chemicals

Contact:

M/s. DOSHI & COMPANY

7, "Premjivan", 87, Kazi Sayed Street, Khand Bazar, Bombay-3.
Phone : 343480 Resi : 455147, 462564 Gram : DHRIECHEM
Ahmedabad, Phone : 877156; Resi. : 407909

IRON POWDER

(REDUCTION GRADE)

THACKER

PULVERIZING CO.

11, Amar Jyot, Dr. R. P. Road, Bombay-400 080.
Phone : 5600784/5617812

CHEMIE SUPPLIES

E. D. T. A. (Acid/Disodium/Te
HEXAMINE
NICKEL CHLORIDE (Electroplating Gra
NICKEL SULPHATE (Electroplating Gra
PENTAERYTHRITOL (Aegis/Kanoria)
PHOSPHORIC ACID 85%
SODIUM ACETATE CRYSTAL
SODIUM FORMATE (Imported/Kanoria

265, Samuel Street, Bombay-400 003. Phones : 333762/63/64/325265/345377

E PEOPLE
TH
EMICAL VISION

- DESIZING AGENTS
- RESINS UF DMEU DMDHEU HVS ATE AMH MF
- WETTING AGENTS & DETERGENTS
- NONIONIC SOFTENERS
- ANIONIC SOFTENERS
- CATIONIC SOFTENERS
- REACTIVE SOFTENERS
- WAX EMULSIONS
- EMULSIFYERS
- ANTIRUBBING AGENT
- POLYETHYLENE EMULSION
- ANTISTATIC AGENTS
- STAIN REMOVING AGENTS
- LEVEL DYEING AGENT
- DISPERSING AGENT
- SIZE SOFTENERS
- CHELLATING AGENTS
- DEFOAMERS
- GUMS
- TURKEY RED OIL
- SOLVENTS
- ANTI-MILDEWING AGENTS
- SILICONE EMULSION
- CARRIERS
- MERCERISING AGENT
- POLYVINYL ACETATE EMULSION
- WOOL BATCHING OIL
- BINDERS
- MANY OTHER PRODUCTS FOR VARIOUS INDUSTRIES

pped & Modernised Factory at Saki-Vihar lake Rd. Powai, Bombay

ed by

mox®

MOX® INDUSTRIAL CORPORATION

nbers 4th Fl. A.S. Brelvi Rd. Bombay 400 001.
-YCOPRINT
: 2870133
ries:

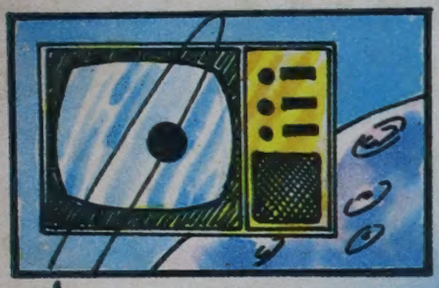
TRADE MARK CAUTION NOTICE

'CHEMOX' is the Registered Trade mark of Chemox Industrial Corporation Under Reg. No. 322485 in class 1st. its unauthorised use by any other person will amount to a criminal offence punishable imprisonment and/or Fine.

REGD. NO. TN/MS/(C) 395

R. N. NO. 197

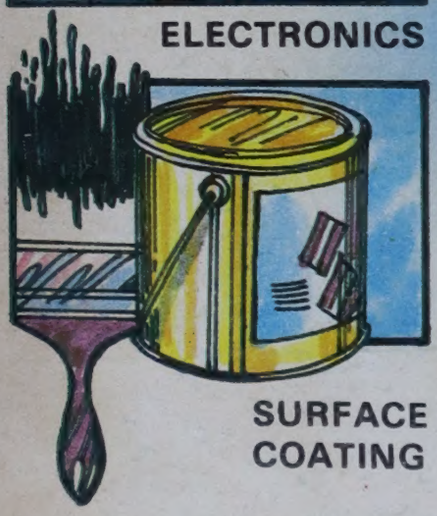
THE SYMBOL OF PURITY IN INDUSTRIAL SOLVENTS



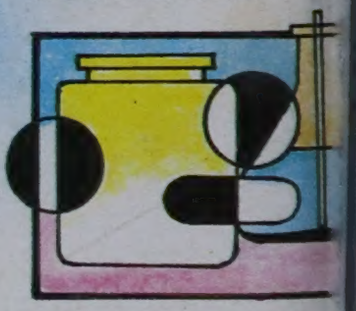
ELECTRONICS

COSMETICS

Industrial Solvents & Chemical Company offer naked products at competitive prices ex- Thane Godown from four separate filling points Of-course, ISC continues to supply original barrels of these NOCIL CHEMICALS : IPA-CBM, Acetone, DAA, MIBK, IBA, EDC, Isopropanol, Butanol, 2-Ethyl, Hexanol, MEG, DEG. and Polyethylene Glycol 200/300/400/600/1500.



SURFACE COATING



DRUGS & PHARMACEUTIC

NOCIL

Authorised Distributor

For Your Requirements Please Contact

Industrial Solvents & Chemical Co.

85, NARIMAN BHAVAN OPP. HOECHST HOUSE 227, NARIMAN POINT
BOMBAY-400 021 TEL : 2028162/2024774 GRAM : INSOCHEM